

TEXTILE BULLETIN

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NO. 5



With popular emphasis on increasing *production* for war, SONOCO could take the easy way—cut a few corners on quality, shorten the time needed for some operations, and produce more.

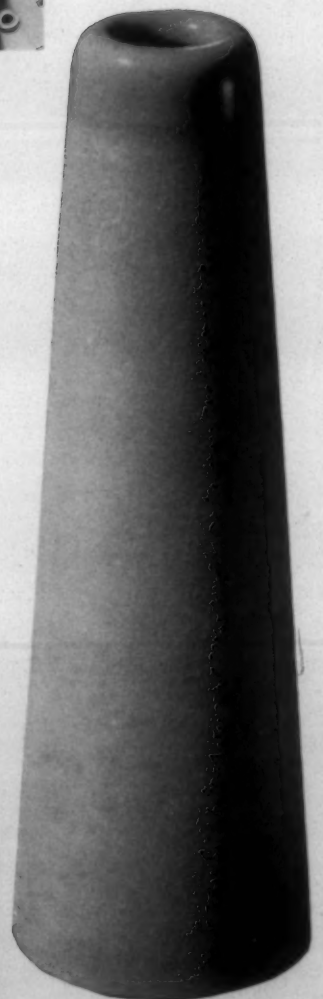
But a large number of SONOCO customers are manufacturing war materials. They must not only get "enough, and on time," but with their operations geared to and depending on SONOCO standards of quality, they must get *that* too.

The only corners we have cut have been to streamline our production lines. We have increased our working time, but we have not shortened a single vital operation.

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SONOCO PRODUCTS COMPANY
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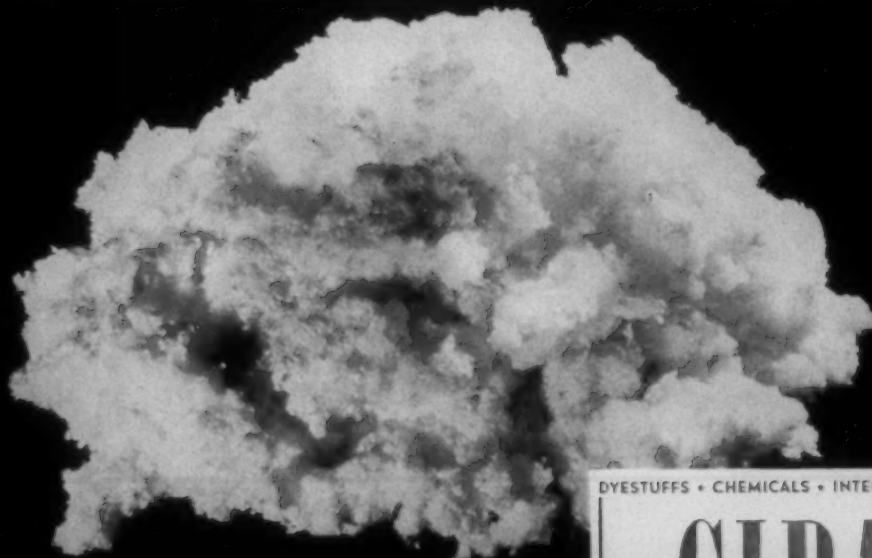


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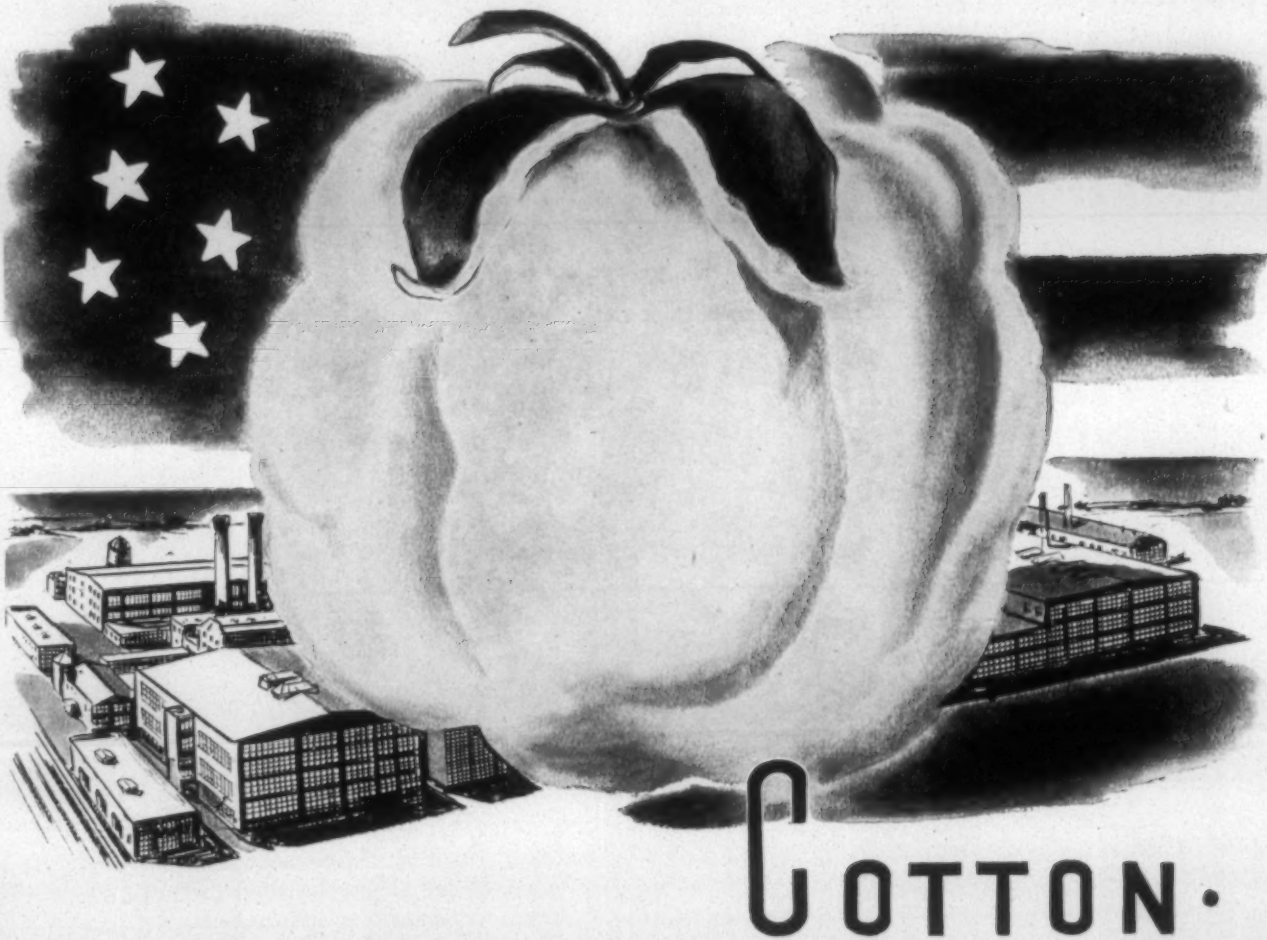
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ATLANTA MINNEAPOLIS ST. LOUIS DALLAS NEW YORK NEW ORLEANS KANSA CITY, KANS.



A DIFFERENT WAR?
YES!

... and a different war
presents new and
difficult problems.

Uncle Sam's fighting men in the jungle, in the Arctic, on the desert - - all over the world - - are demanding fabrics finished to meet the extreme conditions of this new kind of war. • Arkansas' vast peacetime experience is now solving wartime problems . . producing for textile processing and finishing plants products that meet exacting government specifications.

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FUNGICIDE G For mildewproofing all types of cotton cloth used in sleeping bags, webbing, tentage, mosquito netting, etc.

ARKO FIRE RETARDANT For flame-proofing uniform cloth, tentage, felts, etc.

CULOFIX L* For preventing color-bleed in water of direct dyed cotton.

AQUAROL* Produces a water-repellent finish on uniform cloth, overcoatings, and other military fabrics . . used in a single bath treatment with Fungicide G to impart water-repellency and mildew resistance . . used in a single bath treatment with Arko Fire Retardant to produce water-repellency and fire-resistance.



*REG. U.S. PAT. OFF.

ARKANSAS CO. INC.

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Research and Technological Improvements Essential to Post-War Security

—Guest Editorial—

By RUSH S. DICKSON, President
American Yarn & Processing Company
Mount Holly, N. C.

ALL OF US in the cotton mill industry have reason to take courage and look to the future with more confidence than at any previous time over the past 20 years.

No one particular corporation in the cotton mill section of the textile industry has ever felt it had the resources along with a sufficiently low operating cost to justify the necessary financial outlay in maintaining adequate research staffs and facilities along with co-ordination between new discoveries and styling. If the machinery builders did not produce something new, or the selling agents did not have constructive suggestions in the way of new products, the manufacturer appeared content to travel along the line of least resistance and stick either to yarns of long established specifications, or to plain woven fabrics like sheetings and print cloths. Meanwhile, several of the synthetic fiber manufacturers became large, and any one of them did not hesitate to spend more money for research than the entire cotton section of the industry combined.

Under the original idea and suggestion of W. J. (Nick) Carter of Carter Fabrics Corp., Greensboro, a substantial group of manufacturers in North Carolina joined Mr. Carter in establishing the North Carolina Textile Foundation, a non-profit organization to supplement adequate teaching facilities at State College, a division of the greater University of North Carolina, in Raleigh, for various phases of textile manufacturing including laboratory and research work. Other evidence of group co-operation among manufacturers for research work has appeared in various sections throughout the Southeast. Manufacturers are now in position to contribute and should contribute from their war earnings to non-profit organizations to carry on research work not only during the war period, but in the post-war days when new developments arising from the present war are being installed in industry and promoted to the fullest extent.

Who knows, for example, but what electronics will play an important part in textile machinery, or even in the actual manufacture of goods in textile plants during the post-war period? While scientists will perhaps argue the nature of the electron indefinitely, technicians will doubtless continue

to develop practical applications of the behaviour of the electron in machinery and in manufacturing processes. The study and application of electronics is developing so rapidly that its field cannot be limited and defined today. It is perhaps the most versatile and flexible instrument yet devised by man. It enables man to see the hitherto unseeable, to destroy viruses and bacteria, to stimulate organic growth, and to control industrial equipment. A nationally known economist recently stated that, in his opinion, more progress had been made in the past two years of war through co-operation of Government money and research manpower with research divisions in private industry, in the application of the behaviour of the electron than in the past ten years of pre-war experimentation on the part of private industry combined. Electronics will improve communications, will save time and industry, will reduce production costs and will save lives and property. One way or another the impact of electronics may be felt in every activity known to man including, no doubt, the textile industry in more ways than one. Electronics and other technological developments combined with chemical research can, in my opinion, keep "King Cotton" permanently enthroned if supported by the proper expenditure of funds both by the manufacturers and machinery builders.

Another pleasing trend of the industry has been recognition on the part of management that voluntary co-operation in manufacturing and management problems with employees is producing results in the industry of an encouraging nature. Rather than enforced participation in the problems of manufacture and management through organized labor unions, it appears a voluntary basis of co-operation would be the course of wisdom. I know of one organization getting excellent results in management and manufacturing problems through the establishment of a prize system with suggestion boxes installed throughout the plants, encouraging the employees, section foremen, overseers and superintendents, to compete for prizes to be awarded to the parties making the best suggestion for increased production, lowered costs, improved quality, better management-employee relations, improved processes, including patentable suggestions, etc.



HIGH SPEED COTTON SECTION BEAM WARPERS WITH MAGAZINE CONE CREEL

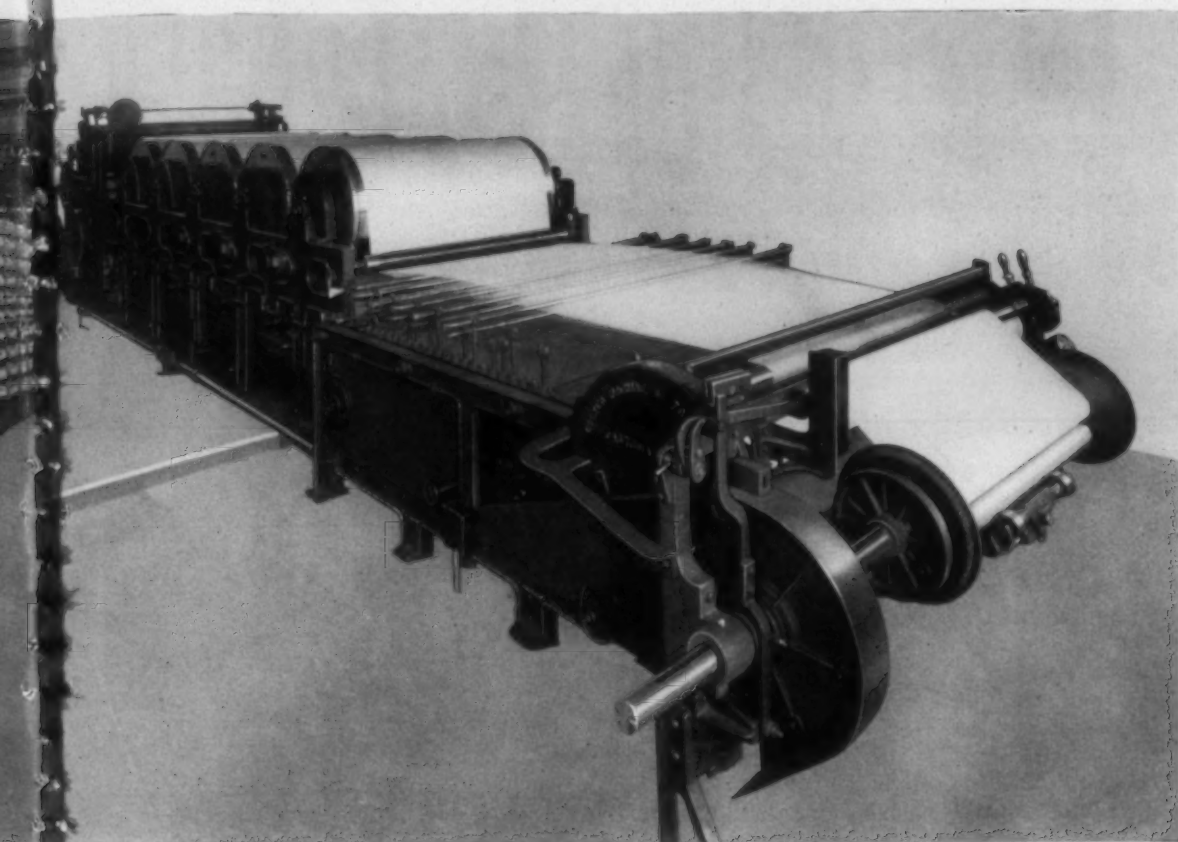
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Repeat orders for complete installations of COCKER HIGH-SPEED WARPERS and Creels, and COCKER HIGH-SPEED SLASHERS illustrated above, prove that better warps are made efficiently and economically on COCKER WARP PREPARATION EQUIPMENT.

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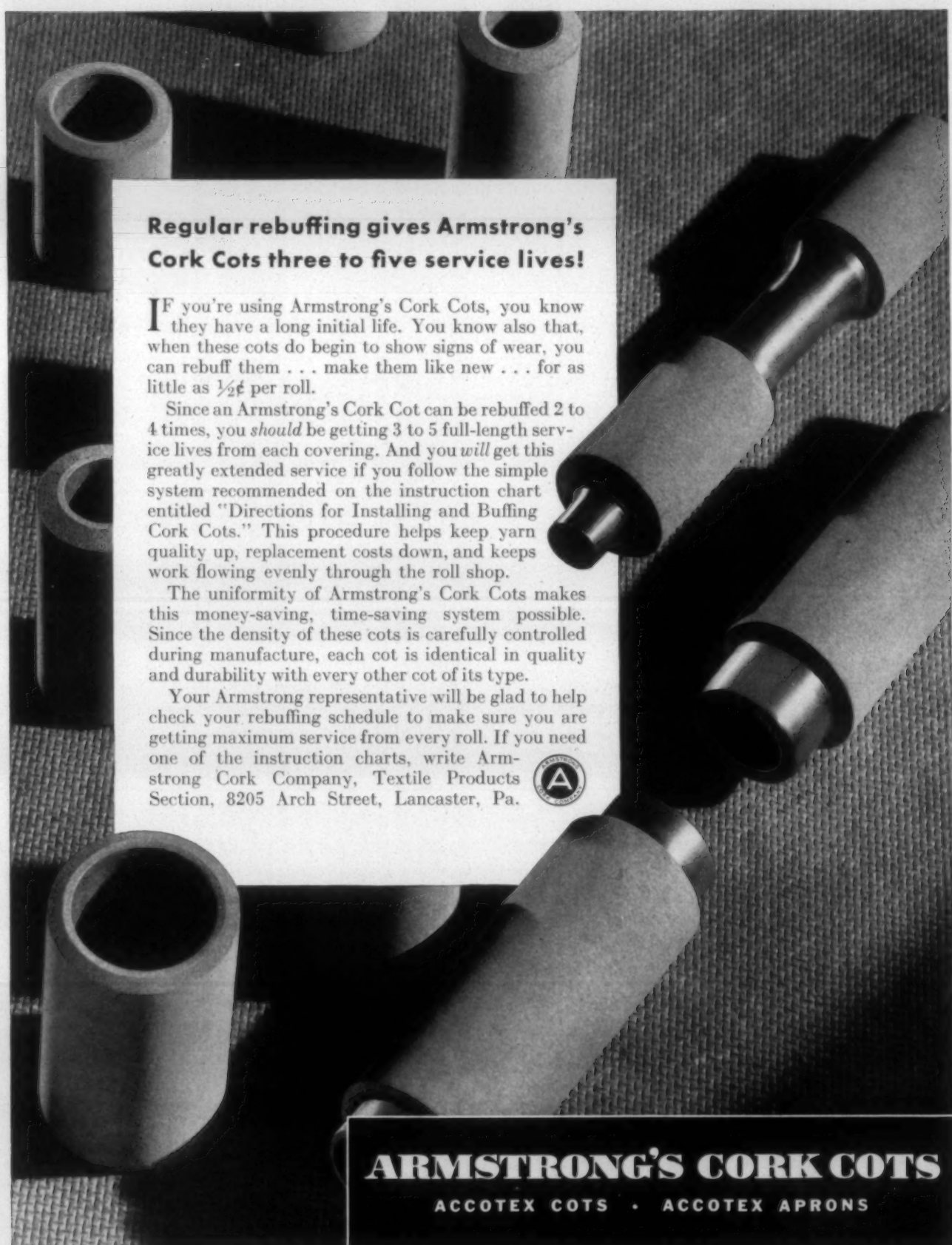
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joints . . . Graduated drive permitting speed changes without overrun on beams or strain on yarn . . . Patented automatic friction control . . . Finger-tip tension control . . . Syphon condensate removal with individual traps on each cylinder . . . Instant speed changes to 90 yards per minute . . . Ball bearings on all moving parts . . . Heavy vibration-eliminating frames . . . Counter clocks for instant stretch calculation . . . Cut markers . . . Cut Marker Indicators . . . Speed Tachometers . . . Combs and comb adjustments . . . Motor and steam fittings . . . plus many other important features.

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Regular rebuffing gives Armstrong's Cork Cots three to five service lives!

IF you're using Armstrong's Cork Cots, you know they have a long initial life. You know also that, when these cots do begin to show signs of wear, you can rebuff them . . . make them like new . . . for as little as $\frac{1}{2}\text{¢}$ per roll.

Since an Armstrong's Cork Cot can be rebuffed 2 to 4 times, you *should* be getting 3 to 5 full-length service lives from each covering. And you *will* get this greatly extended service if you follow the simple system recommended on the instruction chart entitled "Directions for Installing and Buffing Cork Cots." This procedure helps keep yarn quality up, replacement costs down, and keeps work flowing evenly through the roll shop.

The uniformity of Armstrong's Cork Cots makes this money-saving, time-saving system possible. Since the density of these cots is carefully controlled during manufacture, each cot is identical in quality and durability with every other cot of its type.

Your Armstrong representative will be glad to help check your rebuffing schedule to make sure you are getting maximum service from every roll. If you need one of the instruction charts, write Armstrong Cork Company, Textile Products Section, 8205 Arch Street, Lancaster, Pa.



ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS



Herman Cone Discusses Cotton Textile Industry's Wartime Problems*

A YEAR AGO when I was elected your president, I suggested that if we should indicate a platform for our work for the year, it would be a simple statement: "That we do everything in our power to help win the war." Although no official vote was taken on the statement, I am satisfied that it met with complete approbation, because the year has ended and and we now have an opportunity to look at the record.

According to the War Production Board figures our industry produced 11,266,705,000 linear yards of cotton goods in 1942 as compared with 10,546,414,000 in 1941 and with 8,420,748,000 in the last peacetime year of 1939. Our looms wove seven per cent more yardage in 1942 than in 1941 and 34 per cent more than they did in 1939. Our cotton consumption figures shows an even larger gain due to the fact that the war effort has called for heavier fabrics. We consumed an average of 953,265 bales of cotton per month in 1942 as compared with 881,963 in 1941 and with 614,156 in 1939. Our spindles therefore consumed eight per cent more cotton in 1942 than they did in 1941 and 55 per cent more than they did in 1939.



Herman Cone

Admiration and Satisfaction

These figures are bound to compel admiration and a certain satisfaction of a job well done, because we have honestly and industriously endeavored to deliver the quantity and quality and kind of cotton textile products where and when needed. Truly our platform has been operating not only for the war effort but for civilian demands insofar as possible.

When it became apparent that our country would be drawn into the war, the Federal Government began to spend hundreds of millions of dollars on a preparedness program, regardless of expense and regardless of waste. Haste and urgency were the prevailing motives behind all preparations. One has but to read or remember in order to appreciate what it would cost to set up many of the productive factors in the war program.

It has been said that textiles rank second only to steel in

the production of necessary war equipment; but in spite of our importance to the war effort, the Government has had to spend little if anything toward equipping our plants. We haven't as an industry asked for loans; we haven't needed any Government intervention or help. The textile manufacturing industry is self-sufficient, self-supporting and self-reliant.

When the Government procurement authorities began to ask for hundreds of millions of dollars worth of uniform cloths, blankets, sheets, hosiery, parachute fabrics, and all of the rest of needed textile supplies, no one in our industry asked the Government to build a mill; no one asked the nation or the taxpayers to carry raw materials for us. We didn't need any Government cash nor Government credit or advances. Thus far we have carried our own burden and I hope and believe that we can continue to do so and deliver the goods.

Result of Co-operation

The accomplishments that we are so proud of have been achieved for the most part by the whole-hearted co-operation of management and labor. Many of our workers have had to learn new jobs or different ways of doing similar jobs. There have been countless problems to solve in connection with changing conditions of employment. These problems have been solved in most cases on a mutually satisfactory basis. Serious disputes have been few and have rarely resulted in strikes.

The manpower situation is rapidly becoming more acute and although the recent ruling of the Manpower Commission should be helpful insofar as non-draftable employees are concerned it does not change the situation in respect to the employees subject to the draft.

Many phases of the situation continue to be confused, but two things are considered as quite certain.

First, the manpower requirements for war production will "not be permitted to interfere with mobilization of adequate military manpower."

Second, the draft boards will not make a practice of drafting fathers so long as single men and married men without children within the draft ages are available, regardless of the nature of their civilian occupations.

On the other hand "it is the responsibility of the employer to maintain and expand war production as required.

*Excerpts from address of President Herman Cone before annual convention of American Cotton Manufacturers Association at Atlanta, Ga., April 30.

Procurement and replacement of employee personnel is a part of that responsibility."

I regret that I am unable to tell you what you can expect the War Manpower Commission and the Selective Service Board to do in the future. It is extremely doubtful that those Federal authorities know themselves what their next rulings will be.

Replacement Schedules

However, from present information, I believe it will be to the best interest of the employer to plan for the orderly withdrawal and replacement of single men and married men without children between the ages of 18 and 38. I am convinced, from the facts now at hand, that the best plan to follow is to prepare a replacement schedule and file same with your state selective service officials for approval. This replacement schedule is simply a list of the draft liable men in your employment with their draft status and the month in which they can be released for military duty.

I also believe it highly desirable for employers in any given employment are to get together with manpower officials and work out plans, designed to remove employment policy confusion, stamp out labor piracy, discourage absenteeism and otherwise promote the stabilization of manpower.

At present, the country needs the industry's full capacity. If it is to be maintained, and it is important that it should be, the industry must be allowed to make a reasonable profit during the periods when the full capacity of the industry is needed. We do not feel that it is fair to measure our profit by comparison with pre-war years which were abnor-

mally poor ones for us and a period when the textile industry was earning a far lower return on its capital than industry in general.

Raw cotton is as yet not under a ceiling price and there exists no opportunity for a rebate on our raw material or other manufacturing costs. Should ceiling prices on these fabrics be advanced there would be no advantage to the textile mill because it is bound by contract provisions to make delivery at the price agreed upon. On the other hand, the buyers would get the advantage of a reduced price on their contracts, and they could pocket the increment since they are not required to adjust prices or deliveries of their existing contracts. In practice, therefore, no benefit whatever would accrue to the consumer.

Renegotiation

Now for the question of renegotiation. We can understand why certain completely converted industries, or industries making entirely new products about which there were no plans or patterns, might need to have their contracts examined and adjusted, but we cannot comprehend the reason why contracts with the cotton textile industry should be questioned.

The costs of the textile industry were and are fairly well known. The fabrics made for the Government are not materially different from those that the industry has made for many years. The industry knew its costs within reasonable limits. The Government procurement officers were experienced in textiles and they too knew what they were buying and in practically all instances the approximate cost. There were, then, few unknown factors to deal with in negotiating the prices of textile products. The fact that textile companies have made profits and that such profits were somewhat higher than the results achieved in the years immediately preceding the war, is surely no reason to reopen the original negotiation and demand a refund on a job admittedly well done.

The acceptance of Government business by the textile industry has been largely on a voluntary basis. Textile products sold to the Government, directly or indirectly, have been sold at prices equivalent to those which civilian purchasers have paid. Not more than half of the industry's production has been required by the war effort, but the half that has been required has been very unevenly distributed among individual members of the industry. After Pearl Harbor, some members of the industry, for reasons satisfactory to themselves, and which certainly included many patriotic considerations, went "all out" for Government business and told their old established civilian customers "as the supply of our yarns and fabrics, despite our expanding facilities, becomes less and less for normal needs. . . . remember it is because we are producing more and more for war needs. We cannot have all we want if our soldiers and sailors are to have all they need." Such concerns recognized that in taking this Government business that they were running the risk of having competitors, who did not see the necessity of taking any more Government business than may have been allocated to them, take over the customers on which the entire industry will be dependent after the war. The companies, who accepted the Government business, were willing to accept this risk. Such companies have made no more profit, in fact, have probably made less profit, than companies who retained their old customers. For the Government to now levy a special tax

(Continued on Page 46)

"MR. MAC" and the "MAID OF COTTON"



This year's Maid of Cotton, Miss Bonnie Beth Blyler, was in Charlotte, N. C., recently on her nationwide tour. She was greeted by W. M. McLaurine, secretary and treasurer of the American Cotton Manufacturers Association, who said his visit with Miss Blyler was duty as well as pleasure. The other lady present (right) was Miss Laura Lasley, Boston clothing stylist who accompanied Miss Blyler.



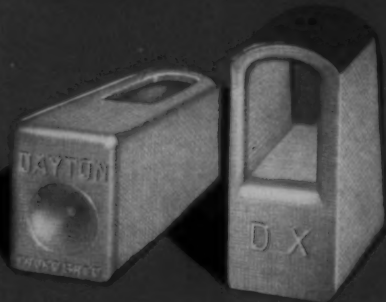
Backed by 37 Years of Industrial Rubber *Know-How!*

Product of 37 years of hard won "know-how" in the development of industrial rubber products, the Dayton De-Luxe Picker is *mill-proved* to be smooth, long-lived—and tough enough to take the constant pounding of high-speed looms.

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1. Cut Picker costs up to 50%.
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Dayton Pickers

A THOROBRED  PRODUCT BY DAYTON

Cottonleather—A New Textile Product For the Shoe Industry

FROM a small asbestos textile mill near Charlotte, N. C., has come a product which is very likely to satisfy shoe manufacturers' hopes of finding a successful substitute for leather and thus reduce the effect of shoe rationing.

Big business is taking over the manufacture, for possibly 55,000,000 pairs of shoes annually. But the achievement is strictly a feat of little business. It was accomplished in a home-made, pine board laboratory, using a combination of hand-made, second-hand and new machinery, at the mill of the Southern Friction Materials Co. down behind a woody hill at the edge of Charlotte.

Cottonleather is heavy, woven cotton fabric of the sort used to drive machine pulleys, impregnated with a special plastic binder. This forms a tan-colored solid, as hard and flexible as sole leather.

The cotton fabric used is at present a surplus, due partly to reduction in manufacture of newsprint. The machines suited to making this cotton weave have been idle to quite an extent. The binder is inexpensive and not required for war.

Process Licensed

The small plant rolls out cottonleather at the rate of a mile in four hours. That does not begin to fill present requests, so the company plans to license the process to large manufacturers. A contract has been closed with the Homasote Co., at Trenton, N. J., licensing that firm for manufacture and selling rights in the North, West and Southwestern states.



The brain trust for cottonleather production is shown here at one of the mixing vats. Some of the new material is stacked at the right. Those at the vat are, left to right, Mrs. J. D. Pickard, head of research; Eugene Gullledge, production superintendent; Harold Snow, president; Hovan Hocutt, factory manager and chief engineer; and John O. Camp, vice-president and sales manager.

The president of Southern Friction Materials Co. is stocky Howard Snow whose acquaintances call him "the man with the overcoat," because he carries one when no one else does. Snow came to this mill as manager on a salary of \$50 a week and orders to show a profit or liquidate the works. That was in 1932; 1942 was the 11th consecutive profitable year.

Snow is the son of Charles Henry Snow, who for 40 years was dean of engineering at New York University. Howard Snow was graduated in engineering and worked in the advertising end of the McGraw-Hill Publishing Co. before coming here. Now he is principal owner of the Southern Friction Materials Co.

Second in the quintet is John O. Camp, who was a reporter for ten years on Newark and Paterson, N. J., newspapers. An expose he did on a clergyman got him into the asbestos business. A member of the church, who was in the asbestos business, liked Camp and offered him more money. From that firm, Camp came to Charlotte.

The girl is Mrs. J. D. Pickard, head of research. She is 28, tall, dark, good-looking, a graduate of Duke University in 1937, where she trained in chemistry and physics. She has a small daughter, was a housewife for five years until her husband entered the Navy as an ensign.

Fourth of the quintet is the young man who produces machines without priorities. He is Hovan Hocutt, engineer, University of North Carolina, 1936. Hocutt takes second hand machinery, junk and some old iron, and saws, welds and rivets it for new uses. He converted a butcher's meat grinder into a laboratory extrusion apparatus for plastics. He made a 35-ton hydraulic press with a second-hand, out-of-date automobile jack.

Last but not least is "Red" Gullledge, a graduate of the school of hard knocks, who begins where the laboratory leaves off and gets the most out of every machine, square foot and ounce of materials. The mill employs 60 persons, does an annual business of \$400,000.

"Lucky," Says Snow

The company hit the jackpot with cottonleather. But President Snow is not especially proud of that.

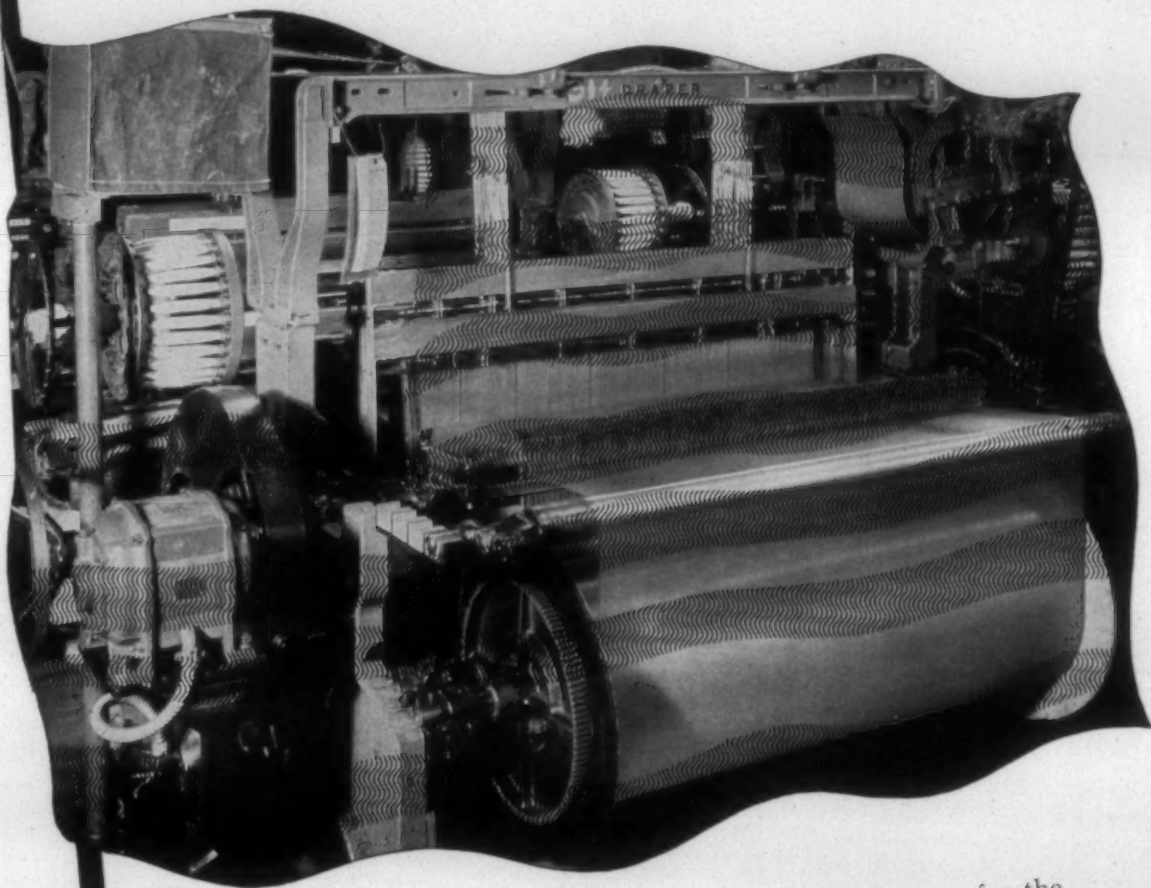
"It was lucky," he says. "We had been experimenting for years with plastics and molded brake linings. That is nothing new. We were just trying them our own way."

"One day a friend, an executive in another company, showed me a letter from a large shoe concern, asking whether cotton might be used in the leather shortage."

"Do you want to work on that?" my friend asked.

(Continued on Page 40)

IN ORDER TO DO YOUR PART
IN OUR WAR PROGRAM ★ ★ ★



You Must have the proper Loom Harness Equipment for the weaving of that particular warp fibre in question—whether

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FIELD ENGINEERS
IN
EVERY DISTRICT

Treating Army Lightweight Protective Covering Materials

By ALLISON FITZGERALD - PART TWO

In the last issue of Textile Bulletin the author discussed chemical procedures relative to the treatment of comforter cloth and insect bars, and now deals with 1.8 ounce cotton insect netting.

THE processing and dyeing of 1.8 ounce cotton insect netting has baffled many dyeing and finishing plant officials, although many plants, small and large, are turning out well finished work meeting the Quartermaster Corps' rigid specifications. There are three chief methods of dyeing and finishing this cotton netting. These use either the alkali soluble cellulose ether or urea formaldehyde resin so as to give the desired water repellent finish possessing the necessary shrinkage control for Quartermaster specifications.

These dyeing and finishing methods may be classed as:

Procedure Number One—Application of O. D. shade by pigment colors dispersed in an alkali soluble cellulose ether carrier which is padded on the prepared netting, neutralized and finished.

Procedure Number Two—Application of alkali soluble cellulose ether to the prepared netting, neutralizing, washing and drying ready for padding or dyeing O. D. shade on with selected direct colors; then drying and finishing the goods.

Procedure Number Three—The prepared cotton netting is dyed with selected direct colors by either jig, padder or in rope form, according to plant equipment available; then given special resin finish, padded on and goods finished on covered frame by ageing at 280-300° F.

A fourth method of application has been tried out but has not always shown the best results, though possessing great potential possibilities. This method used alkali soluble cellulose ether as the carrier and dyeing this solution with selected direct colors; then applying this prepared solution on goods by padding, neutralizing, washing and finishing. As this procedure is considered experimental at present, it will not be discussed in this article.

The writer in this article will discuss briefly only those details of practical interest to chemists and dyers, and will not attempt to discuss the highly theoretical technical points related to resins and cellulosic chemistry.

Procedure Number One

In Procedure Number One the greige goods are received from various weaving mills in pieces averaging 90 to 100 yards. In beaming up rolls it has been found from experience that 12 to 14 pieces (1,100 to 1,300 yards) allows a satisfactory amount to handle throughout all processing operations involved.

The preparation operative in the greige room must be careful about sewing endcloths on this light netting. Although this appears to be a small detail or routine job, it is one that requires careful lining up of the insect netting before sewing on of the endcloth. The operative must sew this cloth so that the filling threads will run parallel to each other during all processing and finishing operations, otherwise the finished goods will show "bowed" filling. An added precaution is to clip all loose threads free from the prepared roll of greige goods. This finished roll must be free of creases usually caused by uneven speed during winding of roll. These precautions will help prevent poor work as to dyeing and finishing.

Desizing formula for 200-gallon mix is made up of 60 pounds desizing agent and 5 pounds wetting out agent.

Run this padder at 130-140° F., remove roll and place on rack; allow to stand two to four hours to permit full solubilization of sizing on cotton netting. Some plants may find it desirable to give two runs on the padder but if the desizing mix is made sufficiently concentrated usually one run on padder is sufficient.

Scouring (boil-off) formula is:

Jig boil-off formula (per 75 gallons).

Jig boil-offs formula (per 75 gallons).

8.5 pounds wetting out agent (alkali resistant).

The goods must be handled carefully on this jig boil-off, run loose as consistent with keeping the rolls and goods lined up satisfactorily on shells. Enter goods at 140° F., run one end, raise to light boil, run three ends at boil, drop bath, give hot rinsing and neutralizing bath to remove excess caustic. Bring up fresh bath in jig at 110-120° F., add two pounds acetic acid 56 per cent, give two ends through this bath and run onto shell the second end—ready for drying.

Use of Dye Becks

Some plants without a sufficient number of jigs for boil-off have tried using regular dye becks and giving the netting a boil-off formula similar to that used on jigs.

Dyebeck formula (per 100 gallons processing bath) is:

4 pounds caustic soda flakes.

2 pounds wetting out agent.

Enter desized goods at 120° F., raise to light boil, keep goods running loosely, no pulling or floating in bath, run at boil 45 to 60 minutes, give running wash during dropping of bath so as to cool goods slowly, thus helping to give a uniformly rinsed goods. Enter a fresh bath and one pound of acetic acid 50 per cent per 100 gallons, run at 110-120° F. for 30 minutes, then drop bath. Hydroextract

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goods, then open up and fold in boxes ready for drying.

If the greige goods were not singed before desizing operation, the boiled off goods are best dried on a straight palmer attached to singeing unit so that the dried goods may be singed at this point.

Greige goods that were singed prior to desizing, then given boil-off, are usually dried on a 60 or 80-foot covered frame that has around 300° F. drying temperature. The palmer and covered frame give this high drying temperature, which allows desired drying results. The dried goods are framed to desired width of approximately 40 inches.

Added precautions must be taken in adjusting the singeing machine just right for this lightweight cotton netting, otherwise it is very easily scorched and the finished goods may be greatly weakened by uneven singeing.

Dyeing (Padder)—Adjust padder for correct pressure so as to obtain good penetration on selvedge, thus helping to insure uniform shade on selvedge and body of goods.

Alkali Cellulose and Color Mix

Formula Number One consists of:

80 gallons alkali soluble cellulose ether (prepared at special viscosity).

Pigment colors (specially prepared paste consisting of three or more pigment colors—yellows, blue, brown).

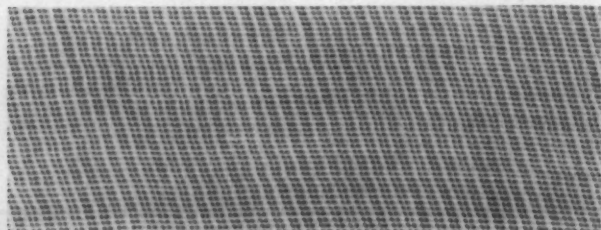
42.5 pounds caustic flakes (dissolved up in 15 gallons water).

10 pounds alkali resistant penetrant.

Make up to 160-gallon volume with cold water; a small electric agitator stirrer is best set in this alkali cellulose—pigment color mix and allowed to run constantly so as to keep mix thoroughly dispersed. This precaution for thorough dispersion is very important, otherwise the dyed shade is mottled and appears dirty.

The above formula is one that is the most expensive, as the pigment color shade has already been prepared for the dyer; he has only to add amount to the alkali cellulose, so naturally there is a higher cost, but in Formula Number Two this expensive practice of using the pigment color in a prepared mix is omitted. A practical dyer's formula follows:

The prepared cotton netting is given one run through padder cold—



Insect netting in the greige.



Insect netting after being dyed.

105 gallons alkali soluble cellulose ether (prepared at special viscosity).

12 pounds caustic soda flakes (dissolved in 20 gallons water).

25 gallons water.

Mix thoroughly and add pigment colors:

80 pounds (8 oz./gal.) pigment yellow paste.

44 pounds (5.5 oz./gal.) pigment olive green paste.

10 pounds (1.1 oz./gal.) pigment brown paste.

Add necessary water to make to 160 gallons (the pigment colors paste may be mixed separately and then added in, or added slowly and mixed thoroughly). Add 10 pounds of wetting out agent (alkali resistant). The prepared netting is padded cold; one run gives shade.

Neutralizing Operation

The neutralizing operation is run cold by jig method (75-gallon bath): 25 pounds acetic acid—56 per cent is added to jig bath over first two ends, then two additional ends. To neutralize the padded rolls of 1,200 to 1,300 yards requires approximately a 4 per cent acetic bath. One to two pounds of penetrant (acid resistant) will prove of value in the neutralizing bath. It usually requires four to eight ends cold to neutralize the padded goods to where the dried goods when dampened and tested for pH value shows around 5.5 to 6.0. This is the recommended point for goods to be neutralized to before removal from jig by shelling.

To obtain full value from acetic acid neutralizing baths, the dyer and chemist must work out practical checks to determine how much fresh acetic acid is necessary to add to each jig bath after a full 1,200 to 1,300-yard roll of netting has been neutralized. It is wasteful to drop this neutralizing bath for each new roll to be processed and if a dyer is careful, these jig baths may be used for five or more rolls if baths are carefully checked and replenished with fresh acetic acid.

Precaution must be taken as to formation of scum which will form chemically due to neutralizing action of the acid. This scum is best removed by skimming off the surface of bath and the operative has to be carefully checked on this or the neutralized netting may pick up scummy marking which, if permitted to be dried on the finished goods, may cause rejects by the Quartermaster Corps.

So a dyer has the two alternatives to choose from. The first is to use the original jig bath with its fresh acid additions up to a certain point where bath remains fairly clear of scum, or use the second method of using the original jig bath over a greater number of rolls and then giving each neutralized roll two ends in a fresh jig bath water rinse at 120° F. before drying and framing the goods at 250-300° F. in a covered frame for proper curing.

Drying and Finishing of Netting

In the drying and finishing of netting it is best to use the longer covered frames so as to permit full time at the 280-300° F. temperature for curing of the cellulosic finish on goods. A speed of 50 to 60 yards per minute on a 90-foot (or longer) frame at 280-300° F. has been found to give fairly uniformly aged and cured goods that hold their shrinkage specifications and shade on storage.

The advantages and disadvantages of dyeing and finish-

(Continued on Page 40)

LAST YEAR'S BONDS GOT US STARTED

THIS YEAR'S BONDS



ARE TO WIN!

★ Last year saw nearly 30,000,000 workers voluntarily buying War Bonds through some 175,000 Pay-Roll Savings Plans. And buying these War Bonds at an average rate of practically 100% of their gross pay!

This year we've got to top *all* these figures—and top them handsomely! For the swiftly accelerated purchase of War Bonds is one of the greatest services we can render to our country . . . and to our own sons . . . and our neighbors' sons. Through the mounting purchase of War Bonds we forge a more potent weapon of victory, and build stronger bulwarks for the preservation of the American way of life.

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Plan already running in my plant."

Sure, there is—but how long is it since you've done anything about it? These plans won't run without winding, any more than your watch! Check up on it today. If it doesn't show substantially more than 100% of your plant's pay-roll going into War Bonds, it needs winding!

And you're the man to wind it! Organize a vigorous drive. In just 6 days, a large airplane manufacturer increased his plant's showing from 35% of employees and 2½% of pay-roll, to 98% of employees and 12% of pay-roll. A large West Coast shipyard keeps participation jacked up to 14% of pay-roll! You can do as well, or better.

By so doing, you help your na-

tion, you help your workers, and you also help yourself. In plant after plant, the successful working out of a Pay-Roll Savings Plan has given labor and management a common interest and a common goal. Company spirit soars. Minor misunderstandings and disputes head downward, and production swings up.

War Bonds will help us win the war, and help close the inflationary gap. And they won't stop working when victory comes! On the contrary—they will furnish a reservoir of purchasing power to help American business re-establish itself in the markets of peace. *Remember, the bond charts of today are the sales curves of tomorrow!*

You've done your bit  Now do your best!

THIS SPACE IS A CONTRIBUTION TO AMERICA'S ALL-OUT WAR EFFORT BY
TEXTILE BULLETIN

Southern Mills On War Work Continue to Gain Recognition

SOUTHERN textile mills, working at military production with little fanfare, continue to gain recognition of their efforts by receiving the Army-Navy "E."

Since the last issue of TEXTILE BULLETIN three more mills in the South have received production awards, and an additional four concerns have been scheduled for pennants. To date, 28 mills and mill chains have been so honored.

Most recent additions to the long list are A. D. Julliard & Co., Aragon (Ga.) Mills Division; Peerless Woolen Mills, Rossville, Ga.; Proximity Mfg. Co. and Revolution Cotton Mills, Greensboro, N. C.; and Frank Ix & Sons, Charlottesville, Va.

Future Ceremonies

Award ceremonies will be held at Aragon May 10 at 3:45 p. m., at Rossville May 11, at Greensboro May 14, and at Charlottesville May 15. Presentation of pennants to the Riverside, Toxaway, Ladlassie and Pendleton plants of the Gossett chain in South Carolina will be made May 5. "E" awards for the Gossett mills were announced previously.

Two other Southern mills who received "E" pennants some time ago have won the production award for the second time and now may add stars to their pennants. They



J. T. Wardlaw and the four employee representatives hold the "E" pennant after it had been presented by Colonel Moore. Left to right, Mr. Wardlaw, A. T. Duckett, Mrs. Ethel Riddle, A. G. Wood and Mrs. John Edwards.



Commander Burwell presents an "E" pin to Mrs. Edwards while other employee representatives look on.

are Cramerton (N. C.) Mills and Beaumont Mfg. Co., Spartanburg, S. C. War plants are entitled to add a star to their pennants upon demonstrating that high production standards which originally won "E's" have been maintained.

Drayton Award

Ceremonies for Drayton Mills, Spartanburg, S. C., were held April 14 with many military and civil officials as well as employees in attendance. Exercises were presided over by Donald Russell, Spartanburg attorney.

"I regret that the Axis leaders—Hitler, Mussolini and Hirohito—cannot see this scene," Colonel Roy C. Moore of Washington, Deputy Director of Procurement, Office of the Quartermaster General, declared in presenting the pennant. "It is a symbol of all we are fighting for. The sweat and toil which earned this award were not the result of compulsion or the threat of the lash; it came from free and willing labor, plus love of country."

Responding to Colonel Moore's presentation, J. T. Wardlaw, treasurer of the Drayton Mills, said:

"This 'E' award comes to us as an honor, but also as a challenge for still greater effort on our part. I think I express the sentiments of everyone when I say to Colonel Moore that we deeply appreciate the honor of this award and we accept it with the feeling of our responsibility for doing a better job in the future than in the past."

Lieut.-Comdr. Ernest Burwell of Spartanburg, Sixth Naval District intelligence officer with headquarters at Charleston, presented individual lapel "E" pins to four employee representatives and then to Mr. Wardlaw, representing the management of the plant. In presenting the pins, Commander Burwell said:

"I am very proud to have a part in presenting the Army-Navy 'E' to my home town friends—an award not easily won nor lightly bestowed—to present each one of you, through representatives here on the platform, your Army and Navy 'E' pin—an 'E' for excellence, for your unflagging patriotism, for your skill, industry and devotion to duty, for an enduring contribution to a great cause—to Drayton men and women for meritorious and distinguished service to their country in a time of need."

American Silk Mills

The Army-Navy "E" pennant was presented to American Silk Mills, Inc., Orange, Va., at ceremonies held April 20 in the presence of 500 employees of the mill together with a number of invited guests.

The presentation was made by Major Henry S. Thorne, United States Army Air Forces, who said that in six months

(Continued on Page 42)

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PRACTICAL TEXTILE DESIGNING

PART NINE

By THOMAS NELSON

Dean of the Textile School, North Carolina State College, Raleigh

Part nine of this series on the fundamentals of textile designing explains steep twills. This subject will be followed in the next issue with a discussion of reclining twills.

ALL ordinary twills run at an angle of 45 degrees, but steep twills which are derived from them run at a greater angle and are constructed by using every alternate thread, or every third or fourth thread according to the grading required. The steep twills on which the harness shafts can be reduced are often used to produce stripes in cloths. They may be used for the whole stripe or in combination with another thread which generally weaves plain, or some other weave different to the steep twill. In this case the thread for steep twill can be made from two-ply yarn to alternate with a single thread. The two-ply thread covers up the single thread, and the steep twill gives a good effect in the cloth. Examples of each of the various degree twills will be given for illustration.

52 Degree Grading

In a 52 degree twill two threads move consecutively as in a 45 degree twill, then a thread is skipped.

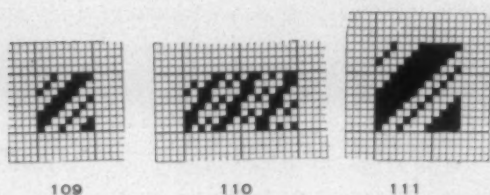


Fig. 109 illustrates the regular $\frac{3}{2}$ twill weave.

Fig. 110 illustrates the 52 degree twill derived from this weave. The pattern is complete on 16 threads and eight picks.

Fig. 111 illustrates the regular $\frac{6}{3}$ twill weave.

Fig. 112 illustrates the 52 degree twill derived from this weave. The pattern is complete on 16 threads and 12 picks.

63 Degree Grading

The 63 degree steep twills are used more than any other steep twills. They are constructed by using every alternate thread of a regular 45 degree twill. When the 45 degree twill repeats on an even number of threads the full repeat of the 63 degree twill will be complete on half the number of threads, but when the 45 degree twill repeats on an

uneven number of threads the full repeat of the 63 degree twill will only be complete on the full number of threads. This principle is illustrated by the following examples.



Fig. 113 illustrates the regular $\frac{4}{2}$ twill weave.

Fig. 114 illustrates the same weave having every alternate thread in different type.



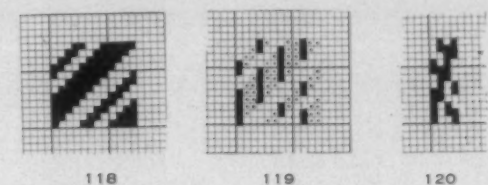
Fig. 115 illustrates the 63 degree twill derived by using the solid type. The pattern is complete on six threads and 12 picks.

Fig. 116 illustrates the regular $\frac{4}{2}$ twill weave.

Fig. 117 illustrates the 63 degree twill derived from this weave. The weave being on an uneven number of threads, the full number of threads are required for repeat of weave in steep twill.

70 Degree Grading

The 70 degree grading twills are constructed by using every third thread of a regular 45 degree twill. When the threads in the regular twill are divisible by three, only one-



third the number of threads are required for a full repeat of the 70 degree twill, but if the number of threads in the

regular twill cannot be divided by three, the full number of threads will be required as for the 45 degree twill.

Fig. 118 illustrates the regular $\frac{5}{2}$ twill weave.

Fig. 119 illustrates the same weave having every third thread in different type.

Fig. 120 illustrates the 70 degree twill derived by using the solid type. The pattern is complete on four threads and 12 picks.

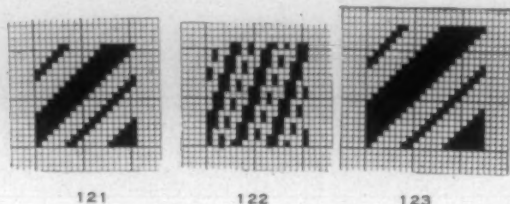


Fig. 121 illustrates the regular $\frac{6}{5}$ twill weave.

Fig. 122 illustrates the 70 degree twill derived from this weave. The weave not being divisible by three, the full number of threads are required as for the 45 degree twill.

75 Degree Grading

The 75 degree grading twills are constructed by using every fourth thread of a regular 45 degree twill. When the threads in the regular twill are divisible, only one-fourth the number of threads are required in the 75 degree twill. When the regular twill repeats on an even number of threads but is not divisible by four, the 75 degree twill will be complete on one-half the number of threads. When the regular twill repeats on an uneven number of threads, the full number of threads will be required as for the 45 degree twill. The following examples will illustrate the different constructions:

Fig. 123 illustrates the regular $\frac{8}{5}$ twill weave.

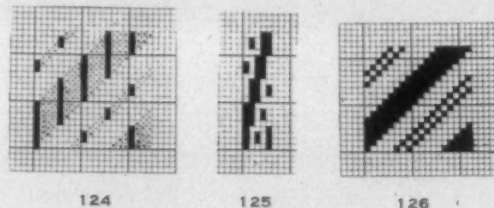


Fig. 124 illustrates the same weave having every fourth thread in different type.

Fig. 125 illustrates the 75 degree twill derived by using the solid type. The pattern is complete on five threads and 20 picks.

Fig. 126 illustrates the regular $\frac{6}{5}$ twill weave.

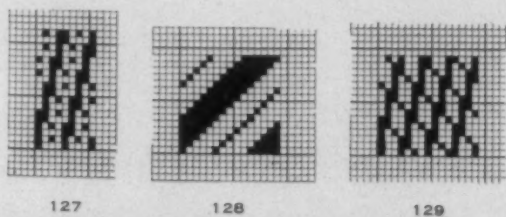


Fig. 127 illustrates the 75 degree twill constructed from this weave.

The weave being on an even number of threads but not divisible by four, only one-half the number of threads are required for the repeat.

Fig. 128 illustrates the regular $\frac{6}{4}$ twill weave.

Fig. 129 illustrates the 75 degree twill derived from this weave. The weave being on an uneven number of threads, the full number is required for the repeat of steep twill.

Fabrics Made From Steep Twills

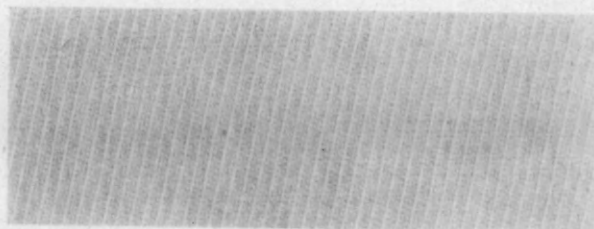
Quite a number of fabrics are made from the different steep twills but more of these are made from the 63 degree twill. Among the many fabrics made are officers' trouserings, field jackets, summer dress goods, draperies, etc.



130-A

Fig. 130-A illustrates an 18-ounce worsted elastique fabric used for officers' trousers or field packes. The

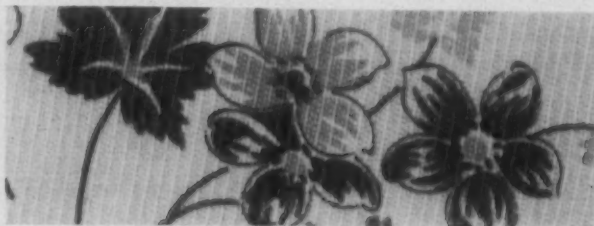
$\frac{4}{2}$ 63 degree twill is used, which requires only eight harness shafts as the weave repeats on an even number of threads.



130-B

Fig. 130-B illustrates a white summer dress goods fabric

made from the $\frac{5}{1}$ 63 degree twill which requires only 11 harness shafts as the weave repeats on an even number of threads.



130-C

Fig. 130-C illustrates the same fabric printed.

(Continued on Page 32)

MILL NEWS

ROBBINS, N. C.—Formerly designated as Hemp, the name of this town has been changed in honor of Karl Robbins of New York, president of Pinehurst Cloth Mills, Inc., which are located here.

CRAMERTON, N. C.—Purchase of \$610,000 in second war loan Government bonds was made recently by Cramerton Mills. Purchase of the bonds was handled through Gastonia and Charlotte banks.

EMPORIA, VA.—Southampton Textile Co., Inc., of Emporia, has filed a charter amendment with the Virginia Corp. Commission increasing its maximum authorized capital stock from \$50,000 to \$100,000. Allen S. Hatcher is president.

SYLACAUGA, ALA.—Avondale Mills' warehouse at Walco was recently struck by lightning and burned. Loss to the company was covered by insurance. Nearby fire departments and employees at work in the early evening were called on for help.

SILURIA, ALA.—The Treasury Department's "T" flag was presented to Buck Creek Cotton Mills recently in colorful ceremonies. It was in recognition of more than 90 per cent of the 500 employees turning more than 10 per cent of their incomes into war bonds.

MACON, GA.—Bibb Mfg. Co., according to company officials, is now the largest producer of war textiles in America. The mills are now virtually 100 per cent on war production and are running night and day. Production has been increased to 50 per cent more than was believed to be full capacity.

ABBEVILLE, S. C.—South Carolina's Secretary of State W. P. Blackwell recently issued a charter to the reorganized Abbeville Mills Corp. Officers named were F. G. Kingsley, president; R. Milliken, vice-president; A. B. Sibley, treasurer; and R. L. Collett, secretary. Under the new company it is expected that new machinery will be installed as soon as possible. This modernization program is to cost more than \$1,000,000.

LEXINGTON, N. C.—With ex-Governor Clyde R. Hoey as principal speaker, a roll of honor for the 257 former employees of Erlanger Mills now in armed service was formerly dedicated recently. Milton Erlanger, head of Erlanger textile interests, came from New York to attend and express appreciation of the co-operation of the employees. Representative W. O. Burgin made a brief talk. Smith Crow, general superintendent of the two Erlanger plants in Lexington, was master of ceremonies.

LAGRANGE, GA.—Callaway Mills recently established the Callaway Armed Forces Center to meet war needs of employees, including letters from home. In the center there is a file on every boy and girl who has entered the service. Letters are sent to each every two weeks, adopting the style of a newsheet with news of personalities, happenings back home, the latest athletic scores and who has dropped in at the center while at home. Letters received get personal answers and special greeting cards and gifts are sent those in hospitals.

KANNAPOLIS, N. C.—In an effort to put every Kannapolis man and woman behind the war effort, the Cannon Mills Co. is going all-out in the payroll deduction bond-buying program, and is inviting every one of its thousands of employees to lend Uncle Sam a part of each pay check. Representatives of all departments in the company's plants have been requested to contact the men and women with whom they work, explaining the payroll deduction plan and inviting them to co-operate.

DANVILLE, VA.—Riverside & Dan River Cotton Mills, Inc., having just received an order for 16,500,000 yards of Army cloth, in addition to the large contracts now being executed, has appealed to the public to work in the mills at 40 cents an hour. In order to keep all the looms going half shift jobs are being offered to high school children, housewives and men and women, who feel that they can put in time on a war job for four hours after their regular daily stint. Some of the wives of the supervisory men and men and girls from the clerical offices are taking on half shifts which very often release a mill worker now engaged on a subsidiary task for a more important mechanical job.

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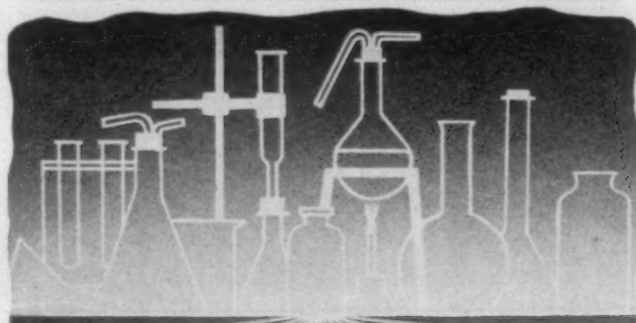
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PERSONAL NEWS

W. H. Carter is now overseer of carding at the Eva Jane Plant of Avondale Mills, Sylacauga, Ala.

Lee Clark, formerly of Langdale, Ala., is now assistant superintendent at Palmetto (Ga.) Cotton Mills.

Morris M. Bryan, president of Jefferson (Ga.) Mills, has been elected president of the Jefferson Rotary Club.

James L. Beaver has resigned as overseer of weaving at Brookford (N. C.) Mills.

Philip B. Raiford is now superintendent of Jordan Spinning Co., Cedar Falls, N. C.

C. B. Wall is now superintendent of J. & C. Cottons at Ellijay, Ga.

W. S. Merritt has been promoted from night overseer of spinning to general overseer of spinning at Louisville (Ky.) Textiles, Inc.

John C. Robertson has been appointed Southern sales manager for Aqua Sec. Corp., with headquarters at Atlanta, Ga.

J. W. Hawthorne, assistant secretary of Jewel Cotton Mills, Inc., has been elected to the city council of Thomasville, N. C.

Henry H. Rankin, superintendent of South Fork Mfg. Co., has been elected president of the Belmont (N. C.) Rotary Club.

T. C. Giles, superintendent of Linwood Cotton Mills, Lafayette, Ga., was instrumental in organizing a Girl Scout troop in his city.

L. K. Fitzgerald, superintendent of the Riverside Division of Riverside & Dan River Cotton Mills, Danville, Va., was married recently.

I. C. Milner, executive vice-president of Gate City Cotton Mills, has been appointed to the board of trustees of Grady Hospital, Atlanta, Ga.

B. B. Gossett of Charlotte, N. C., has been appointed an industry representative on the Fourth Regional War Labor Board. He succeeds J. L. Lanier of West Point, Ga.

W. H. Morrow, vice-president of Efrd Mfg. Co., has been appointed captain and commanding officer for the Albemarle company, North Carolina State Guard.

Phil S. Jamieson, president of the J. B. Jamieson Co., and well known to Southern yarn manufacturers, has been elected president of the Boston, Mass., Rotary Club.

B. R. Dickson, formerly superintendent of Algodon Mills, Bessemer City, N. C., is now carder and spinner at the Chadwick-Hoskins Mill No. 4, Charlotte, N. C.

Henry M. McKelvie, agent of the Merrimack Mfg. Co., Huntsville, Ala., was one of the speakers at Rotary district conference held recently at Birmingham, Ala.

David L. Friday, Jr., of Dallas, N. C., son of the manager of Cocker Machine & Foundry Co., Gasonia, N. C., is now a corporal at the Bainbridge (Ga.) Basic Flying School.

Thurmond Chatham, president of Chatham Mfg. Co., Elkin, N. C., was recently promoted from lieutenant commander to commander in the U. S. Navy. He entered the service in February, 1942.

Miss Florence Martin Hamrick, daughter of Waite C. Hamrick, Sr., textile executive of Gaffney, S. C., was married recently to John S. Reaves, Jr., of New York, who is now an officer candidate at Fort Benning, Ga.

Cecil G. White is now office manager for Atlanta (Ga.) Woolen Mills. He was formerly connected with mills at Tucapau and Ware Shoals, S. C., in an executive capacity and is considered one of the most efficient executive accountants in the textile industry.

James R. Killian, Jr., son of the president of Georgia Webbing & Tape Co., Columbus, Ga., has been appointed executive vice-president of Massachusetts Institute of Technology, Cambridge. He has been executive assistant to the M. I. T. president since 1939, and will take over his new post July 1.

W. J. Pharr, treasurer of Stowe Mills, Inc., will run for mayor of McAdenville, N. C., in an election scheduled for May 4. J. T. Howell, superintendent of the mill, is a candidate for town commissioner.

R. E. Henry, president and treasurer of Duncan Mills, Greenville, S. C., has been appointed a district chairman of the Committee for Economic Development, Washington, D. C. Among those appointed as community chairmen are George S. Harris, president of Riverside and Dan River Cotton Mills, Danville, Va.; Fred Hummel, president of Hummel-Ross Fibre Corp., Hopewell, Va.; and William H. Ruffin, vice-president and treasurer of Erwin Cotton Mills Co., Durham, N. C.

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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

John L. Lewis Defies Our Government

A few weeks ago three welders in a war equipment plant were tried and sent to the Federal penitentiary because they had done welding which they knew to be defective and had thereby risked the lives of men in our armed forces.

John L. Lewis ordered the members of the union, which he dominates, not to continue to work in the soft coal mines, knowing that if they did not work and thereby the coal output was reduced, many of our plants manufacturing war materials would cease to operate and our soldiers, sailors and marines would be deprived of equipment they needed for the prosecution of the war and for the defense of their lives when engaged in battle on our behalf.

If the welders, who made a few defective machines, could be sent to the penitentiary for a year or more, it seems to us that the man who is willing to disrupt production of needed war materials in time of war should be incarcerated with them.

In order to prevent opposition to a 50-cent increase in dues, which he had levied upon members of the coal miners union, John L. Lewis set in motion a demand for a \$2.00 per day increase in the coal miners' pay although those wages had been increased 50 per cent since the beginning of the war.

When the War Labor Board ruled against the wage increase and John L. Lewis realized that without it he could not maintain the increase he had

made in union dues, he defied the War Labor Board and then President Roosevelt and the United States and did so knowing that a coal strike would shut down thousands of war production plants and might cripple our armed forces and cause us to lose the war.

To President Roosevelt it is a case of "chickens coming home to roost," because he has persistently encouraged the labor union racketeers.

President Roosevelt won his first election with an attack upon "special privileges" which was represented at that time as belonging to the "rich people."

He claimed that there should be no class of people who were favored over other classes, but having accepted a \$500,000 campaign contribution from John L. Lewis and large contributions from other labor leaders, persistently refused to make any attempt to curtail the activities of the professional labor leaders and set them up as a new "privileged class."

Until Friday, April 30, 1943, he had never said or did anything which was not favored by labor racketeers, but any backdown upon his part means inflation and a definite weakening of our war effort.

We do not see how John L. Lewis expects to win, for these is an overwhelming public opinion against him, and President Roosevelt cannot afford to weaken even if he wishes to do so.

It is possible, and even likely, that once the President has made a strong condemnation of John L. Lewis' stand, the coal operators will be forced to reach an agreement with the coal miners' union. President Roosevelt will assume that Americans are satisfied with his efforts to prevent a strike and that they will forget his winking at a wage raise, a wage raise destined to be inflationary no matter how small it may be. What will the President do? Will he buck public opinion just as he has done many times before? Or will he break still another precedent—this time his precedent—by saying *no* to the union racketeers?

Lower Wages After the War

In a recent article Roger Babson painted a gloomy picture of conditions after the war. Among other things he said:

Twenty million people are now engaged in war work. Some day this war will suddenly stop. Whenever it does end there will be an awful crash in the union labor market, the same as there was in the stock market in 1929. Millions of union labor will quickly be thrown out of work. Those getting the highest wages will be dropped first. There will then be a job panic and a job depression and all kinds of job troubles. Moreover, this labor panic could take place with increasing commodity prices, greater real estate activity and even higher stock prices.

The politicians may say this will not happen. They may say that the Government will give employment if private

companies will not do so. Perhaps this will be tried; but if so, the Government will not pay the wages—no, nor half the wages—that war workers are now getting. The Government could continue in office which paid any special group of ex-war workers more than letter-carriers, policemen and other Government employees get. This averages \$35 per week for men and \$25 per week for women as "tops." Union war workers are now having a reckless, riotous and crazy honeymoon.

No labor leaders nor politicians can prevent a terrible crash in the labor market after World War II. Furthermore, the higher John L. Lewis and the railroad unions push up wages now, the greater the fall will be and the more grief after peace comes.

Addressing his remarks to the workers, Mr. Babson said:

You can't be blamed for now taking what you are now getting; but you can do these three things which will help you and your family after the war ends:

1. You can do more and better work every day. This will keep down prices and make it unnecessary for the Government to borrow so much money.
2. You can stop asking for higher wages and thus avoid making the returning soldiers any uglier when they do return than they would be if they came back now.
3. You can save every cent possible now for the days—after the war—when you'll be out of work. The cost of living has not advanced more than 20 per cent. Keep your expenses down to what they were before the war, plus 20 per cent. Save the rest by putting in the savings bank or war bonds.

First Southern Cotton Mills

Although we have previously printed the information given below, we have recently received several inquiries upon the subject and it is worth reprinting.

In 1813 Michael Schenck and Absolom Warlick (his brother-in-law) built a mill on Mill Branch, one and one-half miles east of Lincolnton, N. C. Much of the machinery was built by Michael Beam on the premises. The original contract for the machinery is still in existence. For \$1,300 Beam built and installed two spinning frames with 70 flyers. John Hope Smith and Dr. James Bivings bought an interest in this mill in 1819.

In 1818 Joel Battle and Henry A. Donaldson built a mill at the Falls of Tar River (now Rocky Mount, N. C.) They worked negro slave labor. This mill was burned by the Union Army in 1863.

In 1820 Henry Humphreys built the Mount Heccla Mills at Greensboro, N. C. It was three stories high and the first steam cotton mill in North Carolina. The machinery was shipped by boat from Philadelphia to Wilmington, thence up the river to Fayetteville and carried across the country in wagons to Greensboro. Thomas A. Tate, a clerk for Humphreys, later bought the mill. When wood for fuel became scarce around Greensboro, Tate moved the mill by wagon to Mountain Island, N. C., where it was operated by water power.

In 1832 E. M. Holt built a mill on Alamance Creek, in Orange County, N. C., W. A. Carrington being associated with him.

In 1833 John W. Leak built a mill at Great Falls, N. C. It was charted as the Richmond Mfg. Co. This mill was burned by the Union Army in 1865 and rebuilt in 1869.

In 1833 General McDuffie and Mitchell King built a mill at Vaucluse, S. C.

In 1836 Francis Fries and Dr. Schumann built a mill at Salem, N. C.

In 1838 John M. Morehead built a mill at Leaksville, N. C.

In 1837 William Gregg built a mill at Graniteville, S. C.

In the Name of Service

The member of the United States Senate who recently introduced a bill "to mobilize the scientific and technical resources of the nation" sent us a copy of the measure with the notation that he thought that we would be interested. We read the bill until we reached the following provisions:

The administrator shall receive a salary at the rate of \$12,000 a year. The administrator shall be chairman, and six other members, to be appointed by the President . . . shall receive compensation at the rate of \$10,000 a year.

We did not read any further, in fact did not even reach the portion which designated the initial appropriation to be made which would, of course, be very moderate when compared to the amount sought a few years hence.

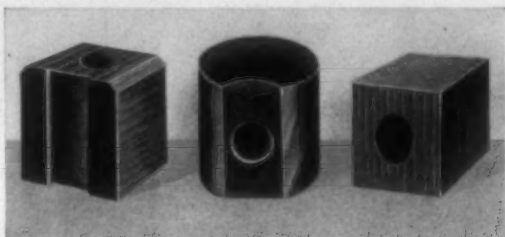
We are interested in the mobilization of our scientific and technical resources but we are not interested in the establishment of another Government agency under which college professors will leave \$3,000 jobs and get \$10,000 to \$12,000 per year from money provided by taxpayers.

Factory Employment Record Set

The National Industrial Conference Board has issued a report on manufacturing employment which shows that it rose about 160,000 in February, bringing the total to the 16,000,000 level—a new domestic record.

Total employment rose by fully 900,000, raising the total—including men in uniform—to 58,500,000, or about 8,000,000 more than a year ago, the survey said. Farm employment, however, was about 100,000 less than in February, 1942.

The private research organization said the total of 16,000,000 working in manufacturing plants compared with only 10,000,000 engaged in 1939.



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MASTER MECHANICS' SECTION

Keeping the Waste of Power Down

By ERNEST W. FAIR

THE waste of power, whether it be steam, electrical or some other form, is as big a crime as waste of food or time in this war. Such power need not be in a munitions plant alone to be extremely costly; its waste by a textile mill, whether on war work or not, is certainly harmful.

Power experts have a number of suggestions on how power waste can be avoided in the average plant. These suggestions have been combined into the following pointers, applicable to any plant, large or small:

- 1) *Don't overload your motors, machinery or equipment. Each motor or machine is rated to handle a given load with the use of a given amount of power; when the machine or motor is overloaded the amount of power waste rises.*
- 2) Make sure the drives for machinery, pulleys, belts, etc., are the right size and the proper ones for use on each piece of machinery. As much as 50 per cent power can be wasted by using a belt or pulley larger than is necessary. Every belt, pulley or drive should be fitted to the job of transmitting just the power needed and no power should be wasted by having to pull an additional belt or pulley load.
- 3) *Failure to give proper care and attention to idle equipment will deteriorate that equipment to the point where it will require more than the normal amount of power to drive it. It will also create added resistance which must be overcome by more power. Keep all idle machines in repair and well lubricated all of the time.*
- 4) The creation of more steam than is actually needed in the day's operations, where steam power is used, is another good way of wasting not only power but the power-making equipment as well.
- 5) *It is always easy to waste power by using a machine at too great speed or at slightly more speed than necessary to accomplish the job; given production can be accomplished as well with normal speed as with over-speed and speeding up equipment is a sure way to decrease its useful life.*
- 6) Running an electric motor "hot" is a certain way to waste from 20 to 40 per cent of the power going into the electric motor . . . proper lubrication helps prevent this ail-

ment, immediate attention is advisable when a motor starts to run "hot."

- 7) *He who fails to shut off a machine after having used it is deliberately wasting power; a machine running without a load or idly is accomplishing nothing but reducing its useful life and utterly and completely wasting the power driving the idle or unused machine. Shut off the motor when the machine is not being used; even for a five-minute period.*
- 8) Another easy way to waste power or even the smallest piece of machinery is to permit belt slippage. Too many plant workers disregard belts when they first start showing signs of slipping. This should be a duty of every employee, for a slipping belt means power wastage every time.
- 9 *Neglect piston rings, cylinders and packings on steam engines and you have power wasted right at the source.*
- 10) Often power is being wasted in plants where machinery and equipment is improperly arranged, particularly where a number of machines are being driven by a single power unit. In such instances it might well pay the executive to study closely possibilities of power saving by re-arranging of the driven machinery in his plant.
- 11) *Putting off repairs until the last moment is another good way of wasting power; putting off a maintenance repair that should be made neglects a spot where power is being wasted . . . the longer that situation is permitted to exist the more power wasted.*
- 12) Defective valves always mean power waste; constant attention to them conserves power.
- 13) *Lack of attention to the lubrication of each part of every machine is a sure waste of power; when lubricant is lacking or in too small a quantity that means extra power must be used to keep those machines rolling. And every such bit of additional power is waste that could be prevented by daily attention to lubrication of these machines.*
- 14) Checking electrical equipment carefully to insure there are no power leaks in lines, switches, transformers, etc., is another good way of saving power.

Maid-Of-Cotton



Miss Bonnie Beth Byler, of Lepanto, Arkansas, was selected Maid-of-Cotton for 1943. Textile manufacturers select Burk-Schier Wet Processing Agents for dyeing and finishing yarns and fabrics made of cotton.



BURKART-SCHIER CHEMICAL CO.
Manufacturing Chemists for the Textile Industry
CHATTANOOGA, TENNESSEE

PENETRANTS • DETERGENTS • SOFTENERS • REPELLENTS • FINISHES

Annual Southern Textile Association Meeting Indefinitely Postponed

Indefinite postponement of the Southern Textile Association's annual meeting was decided upon by the board of governors of the organization at a meeting held April 17 at Charlotte, N. C.

The meeting was attended by the board members and held at the association offices. M. Weldon Rogers, general superintendent of Chadwick-Hoskins Co. at Charlotte, presided.

Those in attendance were of the general opinion that little could be gained by scheduling the usual annual business meeting this year, and were also influenced by the Office of Defense Transportation's discouragement of such gatherings.

As a result of the decision to put off the annual meeting, the S. T. A. board of governors voted to retain current officers of the association until an annual meeting could be held and a general election conducted at that time. Although no annual meeting will be held until conditions are more favorable, the board of governors will meet from time to time for the purpose of conducting necessary business.

Members of the board of governors who were present included President T. C. Pegram of Erwin Cotton Mills Co., at Cooleemee, N. C.; Executive Secretary Marshall Dilling, A. M. Smyre Mfg. Co., Ranlo, N. C.; Secretary-Treasurer James T. McAden, Charlotte; R. F. Nichols, chairman of Master Mechanics Section, Newberry, S. C.; B. M. Bowen, chairman of Piedmont Division, Salisbury (N. C.) Cotton Mill; W. E. Hammond, Balfour (N. C.) Mills; F. D. Lockman, Jr., Monarch Mills, Union, S. C.; Smith Crow, Erlanger Mills, Lexington, N. C.; and F. D. Lockman, Sr., Monarch Mills, Lockhart, S. C.

Alabama Association Elects D. H. Morris, Jr.

D. H. Morris, Jr., president of Geneva (Ala.) Cotton Mills, was chosen president of the Alabama Cotton Manufacturers Association at the annual convention held in Birmingham April 16. J. Craig Smith, the previous association president, and vice-president and treasurer of Avondale Mills, Sylacauga, was elevated to board chairman.

Other officers are: vice-president, George Elliott, Dallas Mfg. Co., Huntsville; and treasurer, J. T. Phillips, Buck Creek Mills, Siluria. New members of the board are Comer Jennings, Eufaula; Fred Tyler, Anniston; W. E. Hendricks and Frank Williams, Lanet; E. C. Langham of Montgomery is the secretary.

The Hugh Comer Textile Safety Trophies were awarded to Merrimac Mfg. Co., Huntsville, in the weaving and spinning class and Boaz Mills, Inc., in the spinning class.

Reports included the treasurer's by G. Arthur Cook, president of West Boylston Co., Montgomery; cotton committee, H. H. Green; traffic, R. C. Forrest, Uniontown; legislation, C. M. Elrod; Alabama Textile Executives' Division, Prof. A. R. Maracmac, Auburn; Officers' Executive Division, W. D. Megahee, Montgomery, and resolutions, Comer Jennings, Eufaula.

Senator James A. Simpson of Birmingham and Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, along with the retiring president, J. Craig Smith, were the principal speakers.

A. C. M. A. Holds Successful One-Day Meeting in Atlanta

More than 250 cotton manufacturers, salesmen and others connected with the textile industry attended the 47th annual convention of the American Cotton Manufacturers Association held April 30 at the Atlanta-Biltmore Hotel, Atlanta, Ga. Hugh M. Comer, vice-president of Avondale Mills, Sylacauga, Ala., was elected president of the association to succeed Herman Cone, president of Proximity Mfg. Co. and Revolution Cotton Mills, Greensboro, N. C. James A. Chapman, president of Inman (S. C.) Mills, was named first vice-president; W. M. Hightower, president of Thomaston (Ga.) Cotton Mills, was elected second vice-president; and W. M. McLaurine of Charlotte, N. C., was re-elected secretary and treasurer.



Hugh Comer



J. A. Chapman

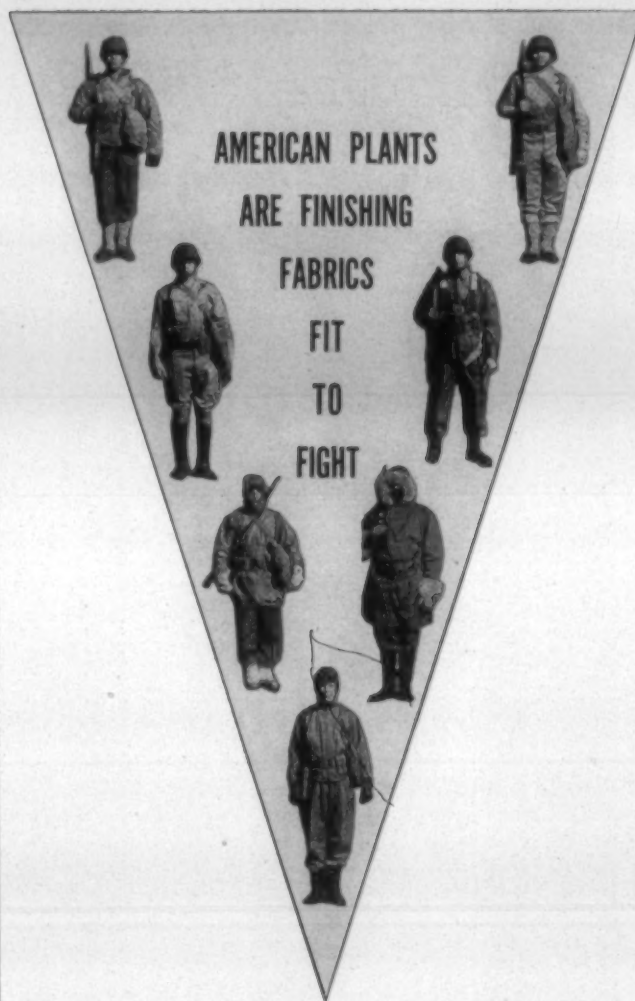
The one-day convention began with a meeting of the association's board of government, followed by a luncheon which all members and guests attended. The retiring president, Herman Cone, and Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, Inc., were the featured speakers at this session. President Cone's address is carried in this issue, beginning on page nine.

Further governmental action to prevent advances in cotton prices is necessary if cotton mills are to be helped, Dr. Murchison declared. The Institute president said that steps taken by the Government to prevent further advances in cotton prices will not help cotton mills unless ceiling prices already established on cotton yarn and cloth are revised upward in line with the sharp ascent in cotton and labor costs over the past few months.

Following the two addresses Hugh Comer spoke briefly in praise of Herman Cone, and presented the retiring president with a set of silver cocktail glasses on behalf of the group's members. W. N. Banks, president of Grantville (Ga.) Mills, praised the lengthy service of Secretary-Treasurer McLaurine, and turned over to him the association's gift, a silver tea service.

After a short intermission the business session was convened for the purpose of hearing committee reports and electing the new officers. Fuller E. Callaway, Jr., president of Callaway Mills, LaGrange, Ga., reported on research and called on the members to support an intensive research program which would have the effect of bringing progress in the cotton textile industry up to the level of that in allied and competing industries.

The cotton committee report was presented by A. K. Winget, chairman; traffic committee report by Carl R. Cunningham, manager; resolutions committee report by Hugh Comer, chairman; report of general arbitration council by Mr. McLaurine; and nominations committee report by J. H. Cheatham.



IN the steaming jungles of the Pacific, the biting cold of Alaska, on the parched deserts of Africa . . . America's fighting men are on the job. And America's fabrics are on active duty with them! To meet the enormously varied demands of our armed forces, the country's bleacheries and finishing plants are bleaching, mercerizing, dyeing, finishing and proofing millions of yards of fabrics.

In this vital work Burkart-Schier is playing an active part. For Burkart-Schier chemists and textile chemicals are working right along with America's textile plants, helping to process all sorts of military fabrics, giving fabrics needed characteristics, making fabrics fit to fight!



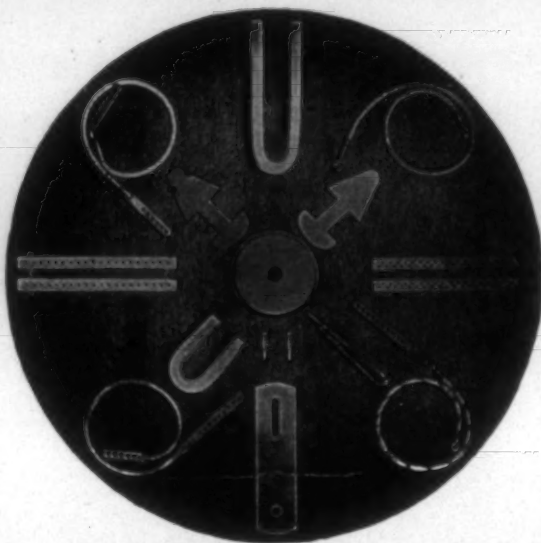
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Advance Earmarking Not Necessary

Combed cotton yarn manufacturers will be required to earmark portions of their production as orders are received from the military, but they will not be required to anticipate such orders by setting aside certain percentages of their production in advance, as was the requirement previously.

This was made clear recently with the issuance of WPB Order M-155 as amended, removing a previous requirement that stated percentages of medium and coarse combed yarns be set aside for military purposes beginning March 1, 1943.

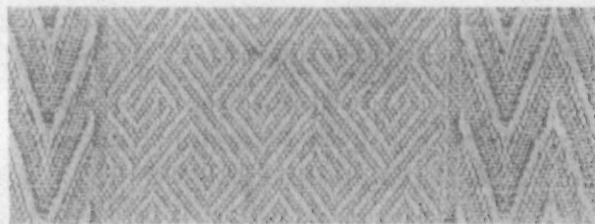
It was explained that the earlier requirement is no longer necessary unless the producer has sufficient orders on hand to justify the earmarking or allocation of part of his production for military use.

Henceforth, producers of medium combed yarns must set aside at least 40 per cent of their production, if their military orders require it. Likewise, producers of coarse combed yarns must set aside at least 65 per cent of their production, if the military orders on their books make this necessary.

Practical Textile Designing

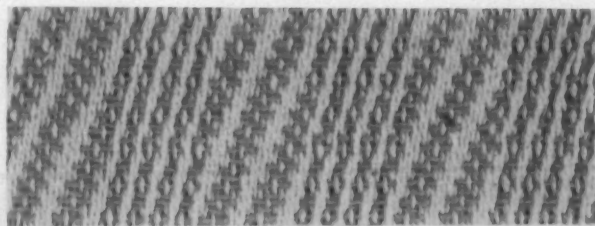
(Continued from Page 21)

Fig. 130-D illustrates one of the cheaper grades of drapery fabrics, the twill effect being produced from the



130-D

7 3 1 1 1 1
— 63 degree twill.
1 2 2 2 2 1



130-E

Fig. 130-E illustrates another of the cheaper grade of drapery fabrics made from a combination of the

7 1 1 1
— base twill. The section marked I is made
1 2 2 1
by using this base twill as a 63 degree twill, and the section marked II as a 75 degree twill.

(To be continued)

OBITUARY

G. I. ROGERS

G. I. Rogers, 65, for the past 22 years overseer of weaving at Palmetto (Ga.) Cotton Mills, died April 5 at his home in Palmetto. Surviving are his wife and eight children.

WILLIAM L. DENHAM

William L. Denham, 61, superintendent of Dallas Mfg. Co., Huntsville, Ala., died April 19 following an illness of ten days. He had been with the Dallas firm over 41 years at the time of his death. Funeral services were held April 21.

CLARENCE B. THOMASON

Clarence B. Thomason, 65, for 30 years traveling representative of Ashworth Bros. and widely known in Southern textile circles, died recently at his home in Charlotte, N. C. Surviving are wife, a son and daughter, two brothers and a sister.

T. J. DIGBY, SR.

T. J. Digby, Sr., 81, for 16 years superintendent of the Oakland plant of the Kendall Co., Newberry, S. C., died April 22 at his home in Greer, S. C. He had retired in 1927. He is survived by two sons and three daughters. Services were held April 24 at Greer.

JAMES WATSON BOST

James Watson Bost, former superintendent of Grace Mills, Rutherfordton, N. C., and Stonecutter Mills, Spindale, N. C., died recently, aged 59.

HARRY W. MOSELEY

Harry W. Moseley, manager of the Monaghan plant of the Victor-Monaghan Co. at Greenville, S. C., for 20 years, died recently after a long period of failing health, aged 71. He leaves his widow, a son and a daughter.

JOHN B. PIPKIN

John B. Pipkin, 87, president of Edna Mills Corp., died recently at Reidsville, N. C. He had been connected with the firm for more than 40 years, after becoming secretary and treasurer in 1900. He is survived by his widow, a daughter and son, and two grandsons.

HERBERT B. MARBURY

Herbert Bayne Marbury, 49, sales manager of the canvas division of Fulton Bag and Cotton Mills, died at his home in Atlanta, Ga., recently after an illness of four months. He is survived by his widow, a daughter, a sister and brother.

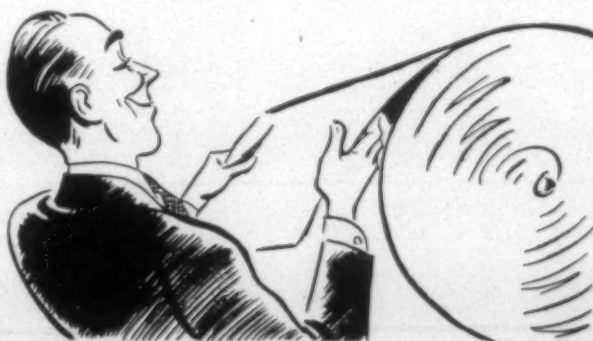
ASAH W. McLELLAN

Asahel W. McLellan, 74, president of Alden Mills at New Orleans, La., died recently. He was president of the American Cotton Manufacturers Association during the 1924-25 term, and well known to textile men throughout the South.

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EXSIZE is a concentrate of pure malt enzymes, with no harsh chemicals, acids or alkalis. Malt enzymes are recognized by scientific test to be the best all-round desizing agent.

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DETECTIVES

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WANTED

Overseer of Weaving between ages of 35 and 55. High school education preferred. Only those with experience in running large rooms and capable of commanding top salary need apply.

Write "N.T." c/o Textile Bulletin.

WANTED—Place as Superintendent of Weaving Mill. 12 years' experience as superintendent. Plain or fancy cotton or rayon weaving. Not subject to draft. Good references. Address "Box 864-W," c/o Textile Bulletin.

WANTED—Position as Overseer of Spinning and Twisting. Twenty years' experience on cotton and waste. Draft exempt. Address "Box 21," c/o Textile Bulletin.

WANTED

One Shift Foreman for 4,800-spindle coarse yarn mill. Applicant must be qualified to look after twisting, winding and spinning. Job available on first shift. This job pays 80c per hour. Mill now operating on six days, eight-hour shift basis. Also state qualifications, draft status, and send references.

Address "Foreman," c/o Textile Bulletin.

WANTED

Personnel manager for cotton mill of about twelve hundred employees. Capable of taking complete charge of the personnel work. Please give age, experience and salary desired.

Write "Manager," c/o Textile Bulletin.

WANTED—Position as Master Mechanic textile plant. Ability to handle steam or electric and general maintenance. Many years' experience. Sober, efficient. Above draft age. Best of references. Address "M. M.," c/o Textile Bulletin.

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One Spinning Room Second Hand for coarse yarn mill. Job pays 80c per hour. Mill now operating on the six days, eight-hour shift basis. Job available on second shift. Applicant state qualifications, draft status, and send references.

Address "Second Shift," c/o Textile Bulletin.

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Nationally recognized manufacturer of textile chemical specialties with headquarters in New York City seeks services of highly experienced sales representative to reside in either Atlanta, Ga., or Columbus, Ga. This is an unusual opportunity for enterprising representative with technical and practical background. Applicants must state age, draft status, experience and references to insure interview. All letters held in strict confidence. Our organization knows of this advertisement.

Address "A. G. C.,"
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WANTED

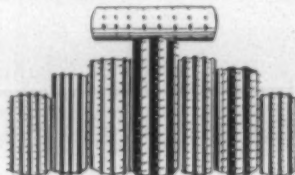
Executive for small carded yarn mill. Must be experienced in all phases of yarn business and familiar with regulations on wages and hours, Social Security, priorities, etc. Good health, personal habits, highest integrity essential. Between 38 and 55. Position for duration of six months. Reply to "Executive," c/o Textile Bulletin, giving necessary information in own handwriting.

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Overseer for third shift Weaving Mill making shark skins, satins, parachute cloth; Government contracts.

Address "Cloth,"
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WANTED

Overseer of Spinning between ages of 35 and 55. High school education preferred. Only those with experience in running large rooms and capable of commanding top salary need apply.

Write "Box B-C,"
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Cotton Goods Market

NEW YORK.—Recent trading in the cotton gray goods market has been at a minimum, with textile plants and selling agents releasing very small quantities of goods on nothing but the highest of priority ratings.

Army and Navy commitments have occupied the major interest in the Worth Street market lately, and although announcements of awards in some instances were not up to the total yardage wanted in the original invitations, the opinion was general that the Government eventually would get all its needs. The scarcity of offers on a number of invitations was purely a precautionary measure on the part of mills, which did not want to sell their production for the last quarter until the situation for that period was more defined. Ceilings, wages, raw cotton prices, renegotiations and manpower all remain as reasons for hesitating on contracting for deliveries late in the year.

An encouraging sign was the recent unofficial expression that the Government in all probability would be willing to pay any differential or premium incurred by sellers and mills from the time contracts are signed. This would go a long way toward easing the minds of mill men and sellers, it is argued.

Emphasis on the continued and growing scarcity of cotton gray goods of all descriptions has led to the conviction in several quarters of the Worth Street market that a practically all-embracing allocation program is about the only solution to the currently complex distribution problem. Although such a move would not be entirely welcome in most quarters, others feel that it would take pressure off their shoulders in deciding just where goods should be channeled.

Faced with high priority orders on all sides, sellers are unable to decide just which to take up first; on top of this are the ever-present demands from the procurement offices, which most organizations make a practice of filling first. Probably the outstanding reason for the wish that such a regulation be issued is the serious position to which consumer supplies have been relegated in the rush to provide the military with its needs.

The contention is advanced that if such a ruling would be issued it would eliminate the necessity for tying up production of looms every time a big new invitation is announced, and it would guarantee a certain percentage of the output of looms for specific purposes. In a measure, it would also correspond to the program of the Office of Civilian Supply; and the thought is advanced that it should be dovetailed with that division's operations.

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Cotton Yarns Market

PHILADELPHIA.—Issuance of the War Manpower Commission's recent order classifying textile workers as essential, whether in military or civilian production, is seen as an important step toward the stabilization of help in the sale yarn industry. According to a statement by a high official of the War Production Board, yarn production is recognized as the most serious bottleneck in the cotton manufacturing business.

This WMC order presumably gives the sale yarn mills a considerable leverage on holding their remaining key employees on the job for the duration. Such action by the Government agencies was asked for long ago and has been greatly delayed in its application. But still, according to market opinion, it is not too late for the yarn mills to make use of it.

The sale yarn business is urgently under the necessity of sustaining and/or increasing the output of carded and combed sale yarns, and of mercerized and other processed yarns, both for military and civilian uses, and in the past the main obstacle has been the loss of competent help.

As understood, these orders from Washington now furnish the yarn spinners with a way of retaining what is left of their competent help. With this foundation to build on, it is expected they will use learners to best advantage, and in the end they may be able to furnish yarns for all essential uses without going too deeply "into the red."

The War Production Board's latest change in certain features of its control over production of combed cotton yarn is viewed in some quarters as a relaxation of the original WPB "earmarking" order, but it is not so construed by local representatives of the combed sale yarn spinners.

More than two years ago the supply of sale combed cotton yarn had become a bottleneck for the armed forces. At that time, the combed yarn mills stated their position to the Government agencies and outlined a course which would increase the output of the wanted yarns during 1942 and 1943. The Government agencies chose to turn the problem over to WPB.

This action resulted in the armed forces having to resort to carded goods instead of combed, in various cotton items, and within the last few weeks it has been demonstrated that carded yarn production is not sufficient for various important needs.

After quite a delay, WPB last May under Order M-155 directed spinners of combed cotton yarn to reserve output for Government use. In August, 1942, this order was postponed until November, as to its effectiveness, and in October it was deferred until January, 1943.

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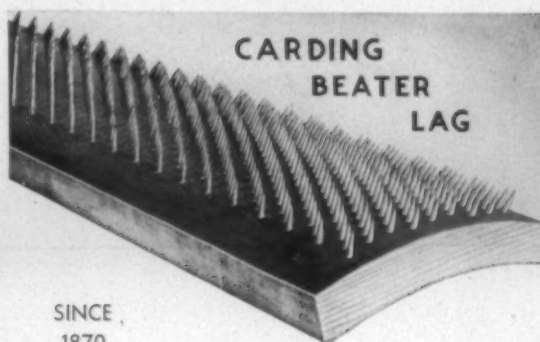
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Gills Pinned
Tenter Plates Pinned
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For the Brush Trade
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Rolls—Faller Bars
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Carding Beaters
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North Carolina Vocation Textile School Building Completed

The very handsome building of the North Carolina Vocational Textile School, costing 27 cents under \$100,000, and located near Belmont on the Charlotte to Gastonia highway, was recently completed.

The North Carolina Legislature of 1941 provided \$50,000 for a school in which textile mill employees could be trained. The textile manufacturers of Gaston County provided another \$50,000 and a site. The 1943 Legislature provided \$75,000 for textile equipment, for which contracts have been placed.



The North Carolina Vocational Textile School.

There will be one combination lapper, two cards, four deliveries of drawing, four roving frames, three spinning frames—one of them equipped with long draft, one twister, one Foster winder and one Universal winder.

For the present there will be no warping or slashing but ply yarn warps prepared on the silk system will be used.

There will be seven Draper looms and seven Crompton & Knowles looms. Six of the latter will be equipped with bobbies and one with a jacquard. There will also be two seamless knitting machines.

The school will be operated with money provided by the U. S. Government under its vocational education program.

T. W. Bridges, a graduate of the Textile School at N. C. State College, will have charge and is already at Belmont. He was for several years in charge of the textile school operated by the Marshall Field & Co. at Spray, N. C.



T. W. Bridges

He expects to have about 17 instructors, but most of them will be overseers of cotton mills and work part time after they complete their shift at a mill.

Government regulations prohibit the sale of any yarns or goods produced.

All will be given to charity.

Most of the instruction given will be in the operation of machines such as cards, spinning frames, etc., but there will be some instruction for those desiring to be loom fixers, section men or overseers and some instruction in elementary designing.

It is not probable that any textile instruction will be given before September because the textile machinery is yet to be shipped and erected.

Machine shop equipment provided with Government funds has been installed and machinists are now being trained under the supervision of Newman McIntyre.

Instruction and training at the school will be offered free. There will be no tuition charge. Boys and girls and

men and women from 16 years of age up are eligible to attend the school. The minimum age of 16 years applies to both boys and girls. There is no maximum age, the school being open to anyone of either sex over 16 years old.

John R. White of Corn Products Refining Co. Retires

Southern textile men lose the services of an old and valued friend in the retirement of John R. White, for the past 30 years Southern manager of the Corn Products Refining Co., textile and paper division.



John R. White

Going to Greenville, S. C., in 1912, after six years as assistant traffic manager in the New York office, Mr. White found his life work in the rapidly expanding industrial development of the South.

His knowledge of the company's products and his interest in promoting industrial production brought him in close contact with business leaders throughout the entire region, who appreciated his services and valued his friendship.

The trade has extended its best wishes to "Jno.," as he always signed his name, upon his retirement under the Corn Products Pension Plan.

Piedmont Section of A. A. T. C. C. Will Meet At Winston-Salem June 5

The next meeting of the Piedmont Section of the American Association of Textile Chemists and Colorists will be held June 5 at the Robert E. Lee Hotel in Winston-Salem, N. C. Previous announcements stated that this meeting would be held at Greensboro, N. C. It was necessary to change the meeting place due to the overcrowded hotel conditions in Greensboro.

Technical papers will be presented and discussed from 3 till 5 p. m. Ernest Caswell, superintendent of dyeing at Cloverdale Dye Works, High Point, N. C., will present a paper and preside during the discussion of "Hosiery Dyeing, Ingrain and Piece."

John Neely, superintendent of Burlington Mills Yarn Dyeing Division, Burlington, N. C., will lead the discussion on "The Dyeing and Finishing of Government Fabrics Composed of Rayon, Nylon and Acetate."

Sidney M. Cone, Proximity Mfg. Co., Greensboro, will preside over the discussion of "The Dyeing and Finishing of Cotton Piece Goods for the Government."

Members have been invited to send in advance any specific questions they may wish discussed on any of the subjects mentioned above. Questions should be sent to the discussion leaders mentioned above as early as possible.

The usual banquet is scheduled for 7:30 p. m. Banquet reservations should be made in advance to enable the hotel to make proper provisions for food and service. The banquet speaker will be announced later.

The committee in charge of arrangements for this meeting is composed of Sidney Cone; J. T. McGregor, DuPont, Greensboro; John B. Neely; Henry B. Dixon, May McEwen Kaiser Co., Burlington; Ernest L. Caswell; and R. H. Souther, Proximity Print Works, Greensboro.

North Africa Gets Textile Products

Textile products valued at \$6,400,000 have been shipped to North Africa since the arrival of American forces in that area, according to a recent report by Edward R. Stettinius, Jr., administrator of Lend-Lease.

The total value of Lend-Lease products sent over amounts to \$26,250,000, with textile shipments making up the largest single division.

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JENKINS METAL SHOP

GASTONIA, N. C.

ESTABLISHED 1912

Cottonleather—A New Textile Product For the Shoe Industry

(Continued from Page 12)

"We already had in our laboratory by-products of our experiments that seemed to fit."

At first cottonleather was manufactured at the Charlotte plant in six-inch widths. But arrangements were made and the machinery adapted to manufacture widths up to 32 inches which permits greater economy in cutting soles, Mr. Camp has pointed out. While the present price for soles of cottonleather is higher than soles of better grades of leather, the Charlotte company is confident that with mass production methods in operation the prices may be made to equal those of the best sole leather.

The company's real ambition is to find uses for the waste materials of the asbestos and cotton mills of the Carolinas.

The five have discovered a new process of recovering zinc, a war shortage metal, from the materials left over after making brake linings. There are tons of that material in the area, and the stuff is 10 to 30 per cent zinc. The WPB has granted Snow priorities on laboratory equipment. He'll set up the necessary machinery and pay the bill himself.

Treating Army Lightweight Protective Covering Materials

(Continued on Page 16)

ing Procedure Number One, using the pigment colors, are numerous. These may be listed as:

(1) The use of pigment colors gives unusually good fastness to cold water, washing and weather tests on freshly finished goods. These tests have been found to reverse themselves, especially the cold water and wash tests when made on goods that have been in storage long periods or exposed to weathering. The usual stock answer of plant and sales technicians to this complaint is that the cellulosic finish was over neutralized or was not dispersed satisfactorily. Such pertinent complaints cannot be dismissed with meaningless replies but on the whole, textile chemists are meeting this complaint of possible "extended oxidation" of the cellulosic finish through the use of anti-oxidants in the finished goods.

(2) It has been found that notwithstanding how strongly acid a neutralizing bath is run on this type of cellulose-pigment color finish, that the finished goods after staying a short period in storage possesses the property of changing from a slightly acid pH of 5.5-6.0 to the alkaline side. Wherever this occurs on the finished goods throughout a finished lot, this usually results in complaints as to mottled shades and lack of uniformity on various wash, cold water and weathering tests.

(3) To overcome complaints arising from Procedure Number Two, it has been found that the addition of satisfactory acid resistant penetrants to the neutralizing bath helps to correct this tendency of the finished goods changing over on storage from an acid to an alkaline condition, but instead of a gradual change where the finished goods remain more or less in a practical neutral condition. This is the one to be desired and it is the point that the best advised and trained plant chemists and technical sales chemists are now striving to obtain.

(4) A property of interest to many technical officials, both with the Government as well as finishing plants, is

that a piece of weathered goods finished by Procedure Number One will, if rubbed in cold water or a washing test, may lose a large part of its finish and pigment color, thus leaving a practically white undyed piece of goods.

This is a factor that has required serious consideration upon the part of many technicians, especially those in official positions as to the advisability of using a procedure similar to Procedure Number Two, where the pigment colors are replaced with substantive dyeing direct colors. In this procedure, the goods are given an additional operation which may account for a more permanent finish and freer of complaints encountered in Procedure Number One, even though it is slightly longer it may prove much more desirable for plant dyeing and finishing.

In Procedure Number Two the cotton netting is prepared as in Procedure Number One and the prepared goods are padded cold with an alkali soluble cellulose ether solution as shown in Formulae One and Two (the pigment colors are omitted).

Formula No. 1, alkali soluble cellulose (prepare 160 gallons):

80 gallons alkali soluble cellulose ether (special viscosity).

42.5 pounds caustic soda flakes (dissolved in 15 gallons water).

10 pounds penetrant (alkali resistant).

Make up to volume of 160 gallons with cold water.

Formula No. 2, alkali soluble cellulose (prepare 160 gallons):

105 gallons alkali soluble cellulose ether (special viscosity).

12 pounds caustic soda flakes (dissolve in 20 gallons water).

10 pounds penetrant (alkali resistant).

Make up to volume of 160 gallons with cold water.

In the preparation and dyeing of cellulose treated netting the prepared cotton netting is padded on cold, neutralized either on jig or dyebeck, and then given a mild alkali rinse so as to prepare the treated netting for a direct dye bath.

Using selected direct colors, the treated cotton netting is dyed by entering the direct color in a fresh bath at 140° F. in two portions; ten minutes in a bath containing one per cent on weight of goods) penetrant and one per cent of retarding agent; raise the bath to a boil and run 45 minutes before sampling for shade.

If the shade is too light, add five per cent salt and boil 15 minutes before sampling.

After shade is approved, dry and frame on 90-foot frame at 280-300° F. so as to obtain proper curing of resin finish.

The prepared netting can be dyed by padding but this requires an additional drying before padding, so hence the usual procedure is to dye either on the jig or beck, then dry and frame.

It has been found that by careful selection of direct colors possessing good fastness that when dyed on this cellulosic prepared netting that the direct dyed O. D. shade possesses greatly improved fastness over that dyed on plain cotton netting and then given special aftertreatments. On preparing direct formulae, it is best to obtain the service of the more experienced dyestuff technical service men, as they can give more desirable recommendations that would work better at different plants than a general formula.

(To Be Continued)

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**Proved Resistant
to 2% Caustic
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CAUSTIC TEST**

**KILLS RUST
AND FUNGUS**

Damp-Tex Enamel is used in 4,000 plants for wet surface maintenance. It penetrates and forces out moisture. Adheres to damp or dry wood, metal, concrete, plaster. Stops deterioration, rot, rust, bacterial and fungus growth*. Will not crack, peel, check, sag or fade. Comes in non-yellowing white and colors. One coat covers. Dries hard overnight into tough, porcelain-like waterproof film.

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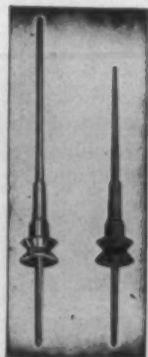
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Doc. Steelstrap Discusses Women

"The Women in My Life" is the intriguing title of an article by Doc. Steelstrap, Acme Steel Company's top-hatted trade character, in the current issue of the company's 12-page house organ, *Acme Process News*.

Indicating the importance of reinforcing war shipments, the well told and illustrated story reveals how strap-applying jobs in many industries are now done by women. The applications pictured range from baling Army twill to strapping cases of superchargers for warplanes.

Handling naval torpedoes en route to loading plants, bundling salvaged tinned steel sheets, skidding of cut stone and bracing lifeboats in cars are a few of the other interesting strapping applications shown in issue No. 11 which is available without charge from Acme Steel Co., 603 Stewart Avenue, S.W., Atlanta, Ga.

Southern Mills On War Work Continue To Gain Recognition

(Continued from Page 18)

the mill will be eligible to have a star added to the pennant if it keeps up the present high standard of work. "Keep producing and we will keep fighting. That is a promise," said Major Thorne.

The award was accepted for the plant by Milton H. Rubin of New York, president of American Silk Mills, Inc., who said that the pennant was not only a symbol of past efforts but an incentive to surpass production already made.

Captain E. M. Williams, U. S. N., head of the University of Virginia Naval Training Unit, presented the "E" pins to the following men and women, employees of the mill, who accepted them in behalf of their co-workers: Elizabeth E. McDaniel, Olive L. Edwards, Harry L. Berry, Burley A. Thacker and Louise Y. Fitzhugh. Mrs. Fitzhugh made a short speech of acceptance in which she pledged unstinted loyalty of the mill and its workers, who will now be encouraged to even greater efforts.

The Orange plant of American Silk Mills, Inc., has a record of 14 years' continuous operation on a 24-hour basis.

Barnhardt Mfg. Co.

High-ranking Army and Navy officials, leaders in the textile industry and other prominent persons attended "E" exercises April 28 at Charlotte, N. C., honoring Barnhardt Mfg. Co. for its war production record. The program took place at the Charlotte Armory Auditorium, with approximately 2,000 present. It was the first "E" award to be made in the city.

George M. Ivey, president of the Charlotte Chamber of Commerce, was master of ceremonies. The opening address was made by Governor J. Melville Broughton of North Carolina. Colonel C. F. Shook, in charge of the blood procurement program for the Army Medical Corps, made the presentation, and it was accepted by J. C. Barnhardt, vice-president of the company.

"E" lapel pins were presented by Lieut. Comdr. Ernest Burwell and accepted for the employees by Miss Mary Turbyfill.

Civilian Production of Textiles Is Declared Essential

The War Manpower Commission announced April 19 it had placed production of textiles for civilian use—except for "fancy" or "luxury" goods—on its list of essential activities.

Previously, the only textile production designated as essential had been that intended for military or industrial use.

Plants getting an essential rating through the new action will get preference over non-essential activities in the hiring of workers where the WMC has put job stabilization programs into effect.

The action also means that local draft boards may grant occupational deferment to irreplaceable men in key jobs in plants producing textiles for civilian use.

WMC said essential production of textiles includes: "The processing, manufacturing, bleaching, dyeing, printing and other finishing of textile cordage fabrics (excluding fancy fabrics such as brocades, chiffons, damasks, laces, velvet, etc.), fibers, nets, rope, twine, yarns made of or using any of the following materials: animal hair (other than wool) such as bristles, alpaca, etc.; asbestos, cotton, fibrous glass, flax, hemp, henequen, jute, kapok, manila, nylon, rayon, rubber, silk, sisal, shearlings, waste, processed wool, other synthetic filaments or fibers."

With announcement of the War Manpower Commission's revised definition of essential activities and occupations in the textile industry worked out jointly with the Office of Civilian Supply, the way is now clear for uninterrupted maximum production of essential yarns and fabrics for military and essential civilian use, said Frank L. Walton, director of the Textile, Clothing and Leather Division of the War Production Board.

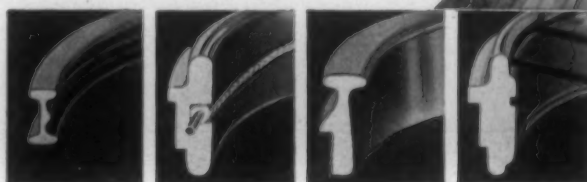
"This broadened definition of textile production and expanded list of essential operations have a tremendous significance for the textile industry," Walton said, in urging every mill employer and worker to study carefully the definition of essentiality as it now stands.

"This order now leaves it up to the individual mill first, to determine the capacity production potential of its machinery, and, second, to do all it can to attain this output to supply both the military and essential civilian production programs," Walton declared. "It makes no difference whether we talk about woolen and worsted mills, or rayon plants, or cotton yarn and fabric mills—we need all-out production of yarns and fabrics if our goals are to be attained. More than ever before, it is absolutely necessary that both mill operators and employees redouble their efforts to increase output.

"The War Production Board is prepared to do everything in its power, consistent with the overall war program, to expedite textile production by relieving bottlenecks and obstacles to production wherever they occur. Since yarn is the major bottleneck facing all fabric mills, emphasis will be placed on increased production of yarns from cotton, wool, rayon, jute and all other cordage fibers to the extent that more shifts and hours of operation make this possible.

"But success in this program depends in the final analysis on the mills themselves, on both plant managers and workers. If every employee and every manager does his utmost in pushing war production, I have no doubt that our goals will be attained."

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Standard reversible spinning ring.

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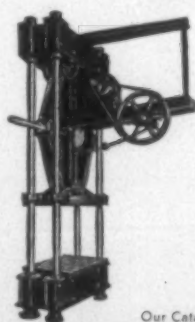
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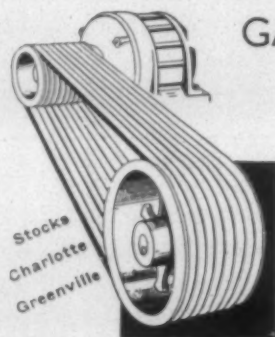
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Rules for Employing Younger Women Are Modified

A further step in the solution of the manpower problem in cotton textiles was taken recently with the announcement by the Cotton-Textile Institute that the Department of Labor has consented to a modification of some of the rules and regulations governing the employment of women between the ages of 16 and 18 in plants operating on Government contracts where labor scarcity exists in sufficient degree to justify it.

Hitherto women in this age group have been employable only between the hours of 6 a. m. and 10 p. m. According to a letter from L. Metcalfe Walling, administrator of the Wage-Hour laws, to Dr. C. T. Murchison, president of the Cotton-Textile Institute, each employer who experiences the need to employ women in this age group during hours other than those specified in the previous regulations in order to maintain maximum production may make direct application to Mr. Walling, stating the particular facts of his situation. No official forms are required to be filled out and the statement of each case may be informal and contain whatever information the applicant may consider to be relevant to an official decision.

Mr. Walling's letter in part follows:

"As a result of the numerous inquiries that have been presented to the department in respect to certain conditions, studies have been conducted to determine what action would be permissible in order to make the conditions more flexible as they apply to individual companies. The studies have shown that in certain localities facts relating to the employment conditions may warrant the secretary modifying the exemption to permit companies to employ girls more than eight hours in a day but not more than nine, if the purpose of such a working schedule is to permit the girls affected to be employed for one shorter day during each workweek. They have also revealed that many industrial shifts have been established to commence at 3 p. m. or 4 p. m. and to end at 11 p. m. or 12 midnight. The transportation facilities, both public and private, are scheduled to coincide with such shifts.

"As a result of these studies the secretary has concluded that it may be possible to modify the exemption insofar as it relates to the permissible hours of work during a day. The problems of individual companies should be presented to my office in Washington.

"Very careful consideration has been given to the request to eliminate the specific and definite luncheon period of at least 30 minutes for those girls who are employed in industries between the ages of 16 and 18. The known hazards to the health of young girls when they are required to work more than six hours without a definite luncheon and rest period precludes the department from modifying this condition.

"I have advised the War Department, the Navy Department, and the Maritime Commission of the above. Any action the department takes upon individual applications will be consistent with the requirements of state laws." Thus, if textile manufacturers wish to apply for modification of the conditions of the exemption insofar as they relate to permissible hours of work in a day, the presentation made to the department should make reference to any clearance the company has obtained from state labor department officials.

Variety and Sizes of Blankets Are Reduced By WPB

The War Production Board has taken steps toward reducing the variety and sizes of cotton, rayon and wool blankets while at the same time assuring production of utilitarian and well-wearing types, according to a WPB statement. As a result of the order (M-298) it is anticipated that unit production of blankets will be increased.

Two general restrictions are imposed on manufacture of all types of blankets:

(1) They cannot exceed 84 inches in length, with the exception of white cotton sheet blankets, which are limited to a length of 95 inches. This restriction applies to both single and double types. The 84-inch length specified by the order is suitable for all normal requirements.

(2) No line of blankets can be made in more than four colors, plus white. Jacquard (multi-designed) types are restricted to color combinations requiring not more than four colors, plus white. Previously, as many as 15 different colors had been used in a single blanket line, while jacquard blankets had been made in designs requiring many combinations of different colors.

The order also assigns an A-2 priority rating to blanket manufacturers for purchase of rayon and cotton yarns, sewing thread, binding, etc. However, wool fiber is not covered by this rating.

All materials purchased with the rating must be used in accordance with construction specifications laid down by the order for each type of blanket.

The specifications limit the weight of blankets to those most commonly produced in the past, establish maximum lengths and widths, specify the finishing and binding of the ends, and limit the colors and pattern which are permitted.

In general, only rose, blue, green and cedar are permitted for solid color blankets. Combinations of some or all of these are allowed for plaid blankets while jacquard designed blankets must conform to patterns in which they are made now.

For crib blankets, the traditional pink, blue and white are permitted.

Record First Quarter Rayon Shipments

Deliveries of rayon yarn by American producers amounted to 119,600,000 pounds during the first quarter of 1943, states *Rayon Organon*, published by the Textile Economics Bureau. This total represents an increase of 2,400,000 pounds or two per cent as compared with shipments of 117,200,000 pounds reported for the first quarter of 1942.

For March, alone, shipments totaled 42,700,000 pounds as compared with 39,000,000 pounds in February and 40,000,000 pounds in March, 1942.

Total deliveries of rayon (yarn plus staple fiber) aggregated 158,800,000 pounds during the first quarter against 153,600,000 pounds shipped in the first quarter of 1942 and 130,400,000 pounds shipped in the first quarter of 1941.

Stocks of rayon yarn in producers' hands March 31 totaled 6,800,000 pounds as compared with 7,100,000 pounds held February 28. Staple fiber stocks held by producers March 31 totaled 2,800,000 pounds as compared with 2,500,000 pounds held February 28.

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Herman Cone Discusses Cotton Textile Industry's Wartime Problems

(Continued from Page 10)

in the form of "renegotiation" against those companies who voluntarily supplied war needs, and to levy no such tax against similar companies who chose not to supply war needs, would be a display of discrimination and ingratitude entirely inconsistent with our national desire for fair play.

Most textile products sold the Government have been sold in conformity with price schedules fixed by the OPA. These ceiling prices were fixed by the Government after

careful investigation. After the textile industry has operated under these ceiling prices it hardly seems fair and reasonable for an entirely different governmental agency to make another investigation and assess an arbitrary amount, in the form of a renegotiation, against the contractor purely because the contractor has a higher earning before taxes than the renegotiator thinks he should have.

At the end of the war the textile industry is going to have many costs properly chargeable to its Government contracts, which costs cannot now be determined. Many thousands of people have moved near the mills, who will not be needed in these mills when the war is over. Those who say the industry can casually wave good-bye to these former employees when they are no longer needed will be the first to criticize such members of the industry as may shirk their responsibilities. What it may cost to discharge such responsibilities it is impossible to say. A sharp advance in the industry's unemployment compensation insurance rate is one definite probability. Many members of the industry now have a low unemployment tax rate caused by the steady employment available during the past two years. This lower tax rate is reflected in the earnings now subject to renegotiation. The advanced rate, which will come when the industry must curtail its operations, will have to be paid by the mills during a period of small earnings or no earnings.

The cancellation clause in all Government contracts provides for reimbursing the contractor for all expense and loss up to the time of cancellation. Who can tell what loss the contractor may suffer, including a loss in the value of his raw material and other inventories immediately following cancellation of Government contracts?

The textile industry has not had a period in which normal profits were made since 1926. As a matter of fact, for the 14-year period 1926 through 1939, the cotton manufacturing industry barely broke even. It is certainly not fair to consider the four years 1936-37-38-39 as a base period.

The net income of cotton mills in 1936 to 1939, inclusive (one of them being a loss year), amounted to 2.76 per cent of gross income, and for manufacturing in general,

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5.54 per cent. In other words, general industry was twice as profitable as cotton manufacturing during the period 1936 to 1939, inclusive.

Is such a policy fair for the industry, particularly when it has performed so unselfishly and so well and made money due to conditions under which farmers, labor and all other classes of people have shared in greater proportions than the textile industry?

No Chronic Opposition

From the foregoing, it might seem that we in industry have a grouch and are chronic in our opposition to all efforts of the Government. If you will carefully study the statements made thus far there will be found no general condemnation of all policies. My criticisms, I think, are constructive and are leveled at certain specific policies that I think should be changed. I realize that the administrators whose sworn duty it is to interpret and carry out the laws are having no easy task. Many of these men, representative of the best in American business, have abandoned their personal interests to work endless hours in a distasteful environment without tangible compensation. They undergo constant criticism of a political nature. Most of all, they have not had the whole-hearted support of their fellow business men. On the other hand, I fear there are some who do not fully realize their responsibilities. The men who formulate official policies should realize that their orders to industry are backed by more than legal force. They have powers clothed with most dangerous potentialities should they desire to use them. As an example: suppose an administrative bureau should say to some corporation, "You are not patriotic if you fail to do our bidding." That statement is one which means too much to be used without thorough and conscientious consideration. It matters not whether the accusation is fairly or unfairly leveled; it has the force of creating adverse public opinion just the same.

I am proud of the fact that I am an industrial manager. I am doubly proud that you have honored me by allowing me to serve as your president. I have enjoyed my association with the fine group that you are.

When finally the guns have been quieted and peace and reconstruction begin, it will fall upon the shoulders of the business men of this nation to clear away the debris and start again on the journey of progress.

American business under a democracy which guarantees the system a free enterprise and individual initiative can do the job and will do it if permitted.

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